DOCUMENT RESUME

ED 034 646 RC 003 923

AUTHOR	Bishop, C. E.
TITLE	Geographic and Occupational Mobility of Rural Manpower. Documentation in Agriculture and Food, 75.
INSTITUTION	Organisation for Economic Cooperation and Development, Paris (France). Manpower Div.
REPORT NO	OECD-75
PUB DATE	Nov 65
NOTE	85p.
AVAILABLE FROM	O. E. C. D. Publications, 2, rue Andre'-Pascal, Paris-16e, France ($1.50)
EDRS PRICE	EDRS Price MF-$0.50 HC-$4.35
DESCRIPTORS	Agricultural Laborers, *Comparative Statistics, *Geographic Distribution, International Organizations, Labor Turnover, Manpower Needs, Motivation, *Occupational Mobility, *Rural Areas, *Rural Development, Rural Economics
IDENTIFIERS	*European Countries

ABSTRACT

Comparative statistics and the interaction of a group of experts provide the base for this study of occupational and geographic mobility of agricultural manpower. The countries studied were Austria, Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Sweden, the United Kingdom, and the United States. Emphasis was placed upon the transfer of labor from agricultural to nonagricultural employment. The study sought to determine the rate at which manpower is being transferred, the types of adjustments in agriculture which are associated with the transfer, the major motivations for the transfer, impediments to mobility, and the types of policies which would improve mobility. Policies were recommended to increase the labor potential of agriculture. A related document is RC 003 916. (DK)

DOCUMENTATION
IN AGRICULTURE AND FOOD

75

RECEIVED
DEC 1 1969
OECD
P.A.I.C.

GEOGRAPHIC AND OCCUPATIONAL MOBILITY OF RURAL MANPOWER

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

DOCUMENTATION IN AGRICULTURE AND FOOD

(publications on sale obtainable from OECD sales agents)

1959 SERIES

1. **Cost-return relationships in agriculture.** Project 392 (5 s.; F 3,20).
2. **Economic optimum fertilizer use.** Project 393 (6 s.; F 4). ★
3. **National systems of seed certification.** Project 215 (6 s.; F 4).
4. **Consumer education in food and agricultural products : with special emphasis on milk and fish.** Project 308 (6 s.; F 4)
5. **Livestock diseases and the organisation of veterinary services in Europe.** Project 205 (7 s.; F 4,80)
6. **Trial shipments for the European standardisation of plums.** Project 5/16 (2 s. 6d.; F 1,60) ★
7. **Marketing of fruit and vegetables in Yugoslavia.** Supplement to the printed report on the marketing of fruit and vegetables in Europe. Project 372 (2s. 6d.; F 1,60)
8. **Agricultural advisory services in O.E.E.C. countries in the Mediterranean area.** Project 5/17 (5 s.; F 3,20)
9. **Farm records for farm management purposes.** Project 395/2 (6 s.; F 4) ★
10. **Pre-packaging for fruit and vegetables.** Report of the European Conference and Exhibition held in London. Project 372 (9 s.; F 5,50)
11. **List of agricultural press and periodicals issued in O.E.E.C. member countries.** Project 5/32 (FATIS) - (7 s.; F 4,80) **(revised 1960)**
12. **Slaughterhouse facilities and meat distribution in O.E.E.C. countries.** Project 265 (4 s.; F 2,70)
13. **Improved methods of distribution in retail trade for milk and milk products.** Project 285/3 (1 s. 6 d.; F 1) ★
14. **Training of young farmers and farm workers.** Organisation of Vocational Training in Agriculture in Europe at normal and higher levels — Farm Apprenticeship Schemes — Exchange Programmes within Europe and between Europe and the United States. Project 395/2 and 5/17 (9 s.; F 6) ★
15. **Marketing and distribution margins in O.E.E.C. countries for livestock and meat.** Project 285 (6/-; F 4)
16. **Marketing and distribution margins in O.E.E.C. countries for eggs.** Project 285 (4 s.; F 2,70)
17. **Use of radiations and radio-isotopes in agriculture and food.** List of research Institutes and scientists in O.E.E.C. Member countries. Project 396 (4s. 6d.; F 3) ★
18. **Lexicon of terminology used in the fruit and vegetables trade.** Project 372/2 (3 s.; F 2)
19. **Trial shipments for the European standardisation of table pears and Citrus fruit.** Project 372/2 (4 s. 6 d.; F 3) ★
20. **O.E.E.C. standard Code and test bulletin for agricultural tractors.** Project 251/4 (3 s.; F 2)

★

1960 SERIES

21. **Marketing and consumption of frozen fish.** Project 5/18 (7 s.; F 4,80)
22. **The consumption of fruit and vegetables in O.E.E.C. countries.** Project 372/2 (12 s. 6 d.; F 8)
23. **Grass, clover and lucerne trials in O.E.E.C. countries.** Projects 209 and 210 (14 s.; F 9,50)
24. **Marketing and distribution margins for milk and milk products.** Project 285 (9 s.; F 6)
25. **Standardisation of wooden packaging for fruit and vegetables.** Project 372/2 (12 s. 6 d.; F 8) ★
26. **The contribution of Home Economics towards rural development projects** Project 5/17-II (b) (6 s.; F 4)
27. **Agricultural regions in the European Economic Community.** Project 417 (10 s. 6 d.; F 7)
28. **List of agricultural press and periodicals issued in O.E.E.C. Member countries.** Project 5/32 (FATIS) - (7 s.; F 4,80)
29. **Marketing of fruit and vegetables in Spain and Turkey.** Projects 5/16 and 6/10 (6 s.; F 4)
30. **Higher Education in agriculture.** Project 6/15 (FATIS) - (7 s.; F 4,80)
31. **Nutritive and therapeutic value of fruit and vegetables.** Project 7/10-C (9 s.; F 5,50)
32. **Meat cuts in O.E.E.C. Member countries.** Project 7/11-IB (4 s.; F 2,50)
33. **Catalogue of the types and sizes of wooden packaging for fruit and vegetables used in Europe.** (Supplement to the catalogue published in 1958). Project 5/16 (9 s.; F 6)

★ Out of print

(continued on page 4 of cover)

ED034646

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

$1.50

GEOGRAPHIC AND OCCUPATIONAL MOBILITY OF RURAL MANPOWER

Published by the

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The Organisation for Economic Co-operation and Development was set up under a Convention signed in Paris on 14th December 1960 by the Member countries of the Organisation for European Economic Co-operation and by Canada and the United States. This Convention provides that the O.E.C.D. shall promote policies designed:

- *to achieve the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the world economy;*
- *to contribute to sound economic expansion in Member as well as non-member countries in the process of economic development;*
- *to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.*

The legal personality possessed by the Organisation for European Economic Co-operation continues in the O.E.C.D. which came into being on 30th September 1961.

The members of O.E.C.D. are Austria, Belgium, Canada, Denmark, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States.

TABLE OF CONTENTS

	Foreword	5
I.	Adjustments in Agricultural Manpower under Conditions of Economic Growth	7
II.	Occupational and Geographic Mobility of Agricultural Manpower	13
	Occupational Mobility	15
	The Decline in Farms and Farm Workers	19
	Occupational Inheritance in Agriculture	21
	Mobility within Agriculture	24
	Part-time Farming	25
	Occupational Choice of Migrants	26
	Geographic Mobility	27
	Mobility within Agriculture	27
	Discernible Patterns of Migration	28
	International Mobility	30
	Population Movements to Rural Areas	30
III.	Factors Affecting the Mobility of Agricultural Manpower	35
	Mobility Potential	36
	Sex Distribution	36
	Age Distribution	37
	Education and Training	42
	Mobility Incentives and Motivations	46
	A Quantitative Analysis of Farm-Nonfarm Migration	48
IV.	Impediments to Mobility	51
	Population Characteristics	52
	The Costs of Mobility	52

Opportunity Costs 52
Fixed Costs in Agriculture 53
Direct Costs of Transfer 53
Adjustment Costs 54
Costs of Uncertainty 55
Nonpecuniary Costs 55
Structural Change and Structural Rigidities 56
Technological Improvements and Structural Change 56
Seasonality of Farm Work 60
Imperfections in the Land Market 61
External Impediments to Structural Change 62
Agricultural Fundamentalist Philosophies and Policies 63
Farm Fragmentation 63
Special Policies Concerning Land 63
Price and Income Policies 63
Restrictions on Labor Use and Labor Mobility .. 64
Deficiencies in Infrastructure 64
The Giving Communities 64
The Receiving Communities 65

V. Mobility Assistance 67
Manpower Policy Objectives 68
In Agricultural Communities 68
Education and Training Programmes 70
Information Systems 71
Mobility Payments 73
Assimilation in the Receiving Communities 73
Approaches to Mobility Differ among Countries 74
Sweden 75
Netherlands 77
France 78

VI. Summary and Policy Recommendations 81
Summary 81
Policy Recommendations 82

Annex: List of Participants at Expert Meeting 85

FOREWORD

The present report deals with the geographic and occupational mobility of rural manpower, with particular emphasis on obstacles to mobility and measures to overcome these obstacles. It is thus complementary to the recently published OECD report on "Problems of Manpower in Agriculture" which dealt with the present and possible future changes required in order to adjust agricultural manpower to general economic growth.

This report was prepared by Professor C.E. Bishop (Department of Agricultural Economics of the North Carolina State University, United States). It is based upon available documentation including research reports and on discussions with governmental officials and research workers in Austria, Denmark, France, Germany, Greece, Italy, Netherlands, Norway, Sweden, the United Kingdom and the United States. Discussions were also held with officials of the International Labour Office, the Food and Agriculture Organisation and the European Economic Community.

A group of experts met in November 1964 to discuss a draft of the report prior to its finalisation. A list of the experts will be found in Annex I.

In publishing this report the OECD wishes to express its sincere thanks to Professor Bishop, for his excellent work in its preparation; and to the experts for their helpful advice and comments. It is hoped that this report will make a useful contribution to the present knowledge on the problems of rural manpower mobility and will stimulate the adoption of the measures needed to promote the adaptation of agriculture to the conditions of economic growth.

The report is the responsibility of the Consultant mentioned and does not necessarily reflect the official views of the Organisation.

I

ADJUSTMENTS IN AGRICULTURAL MANPOWER UNDER CONDITIONS OF ECONOMIC GROWTH

Rapid technological and economic progress in agriculture have important implications concerning the need for mobility of agricultural manpower. The response of agricultural manpower in adjusting to these changes in technological and economic conditions may affect importantly the economic growth of a nation, the structure of its agriculture and the distribution of income among farm people.

Industrial development usually is accompanied by transfer of labor from farm to nonfarm employment. This process of adjustment is as old as Western economic development. The importance of labor transfers and of expansion of employment to economic growth varies among countries. Although labor transfers are not sufficient for economic growth, many nations depend heavily upon migrants from farms to provide the labor for expansion of non-agricultural industries. If farm labor is immobile, industrial development may be impeded unless immigrant workers can be obtained.

Labor mobility also may affect importantly the return for labor services. Economic growth which is accompanied by substantial expansion in nonfarm employment creates higher paying employment opportunities for farm people. Those who transfer to nonfarm employment usually expect to increase the returns for their labor. Moreover, migration from farms may make possible an improvement in the structure of agriculture and an increase in the labor earnings of those who remain on farms. Many farm families suffer from low incomes because they are unable to make the changes in the structure of agriculture which are necessary to increase the productivity and incomes of agricultural labor to reasonable levels. A low mobility rate for agricultural manpower, therefore, may dampen the rate of economic growth and may create depressed incomes for farm families.

The manpower needs of agriculture are determined by the market conditions for farm products and the productivity of labor and other resources in producing farm commodities. The relatively high per capita incomes of the countries of Western Europe and North America are accompanied by a low income elasticity of demand for farm products. In view of the low income elasticity of demand in the highly developed countries and the intense competition for commercial export markets, growth in demand for the farm products of Western Europe and North America is not likely to be large enough to expand the manpower needs of agriculture even in the absence of additional use of labor saving technologies. The most important determinant of agricultural manpower needs, therefore, likely will continue to be expansion in the use of capital and the accompanying increased productivity of labor.

The processes by which structural changes occur in agriculture provide insights into the changes which may be expected in the future. Economic progress makes its impact upon agriculture through technological improvements in the production of farm products and through improvements in the organisational structure of the industry. The initial impacts of economic progress are exerted through biological, chemical and mechanical improvements in technology. Improvements in biological and chemical technology increase the productivity of capital relative to the productivity of labor and land and thereby encourage the substitution of capital for labor and land in the production of farm commodities. Most biological and chemical innovations also increase the productivity of land relative to labor and thus encourage the substitution of land for labor. Mechanical innovations likely result in greater increases in the productivity of capital relative to labor than biological and chemical innovations. Mechanical innovations, therefore, exert a greater influence upon reduction in the use of manpower in agriculture than biological or chemical innovations.

Biological, chemical and mechanical innovations all tend to be output increasing. They increase productivity of resources and enable farm families to expand output. They either increase the amount of product from given levels of investment or increase the most profitable level of investment. Mechanical innovations especially are likely to be capital using. New machinery and equipment frequently require large outlays of capital. They also alter the cost structure by shifting the marginal cost to the right thereby providing incentives for an expansion of output. Thus, there are inherent in biological, chemical and mechanical innovations strong forces to increase output and to increase the size of farms.

Since the market for farm products is not expanding rapidly, the adoption of technologies which provide incentives to expand the output per farm also generates pressures to decrease the number of farms. Biological,

chemical and mechanical innovations, therefore, also give rise to innovations in the organisational structure of agriculture.

Innovations in the organisational structure of agriculture, like other types of innovations, tend to be labor saving. In particular, organisational innovations increase the productivity of management, thereby enabling farmers to expand output per unit of managerial input. This increased productivity is accomplished through increased specialisation in the production of farm products, through vertical integration and contract farming and a reduction in the scope of managerial decisions at the farm firm level and through further substitution of capital for labor.

In summary, technological innovations of a biological, chemical and mechanical nature and innovations in the organisational structure of agriculture all generate forces which provide incentives to increase the size of the farm firm. Each of these types of innovations provides incentives to increase the amount of capital relative to labor in agricultural production and, therefore, tends to enhance the migration of labor from farms.

The above discussion of innovation in agricultural production has focused attention upon the importance of technological change and its impacts upon the resource mix employed in the production of farm commodities. Invention and innovation in agriculture also are motivated by other factors. As economic development takes place in an economy, capital is accumulated. Thus, it becomes easier to adopt capital-using, labor saving technologies. Furthermore, as the nonfarm demand for labor increases relative to the farm demand for labor, labor is attracted from farm to nonfarm employment and the wage rate of labor in agriculture increases relative to the price of capital items used in agricultural production. This change in relative prices provides further incentives to substitute capital for labor in agriculture.

Still other forces are set in motion to decrease the amount of labor and to increase the amount of capital employed on farms. The increase in the wage rate relative to the price of capital not only creates incentives to substitute capital for labor in the production of farm commodities but it tends to orient research toward the development of labor saving technologies. Research tends to be oriented toward replacement of the resources which is relatively high priced. Since the wage rate increases relative to the price of capital as an economy develops, incentives are provided to develop technologies which are labor saving. The substitution of capital for labor, therefore, is a natural and continuing phenomenon under conditions of economic development.

The forces of change as outlined above now are at work in all of the nations of Western Europe and North America. Although there are

substantial differences among countries in the rates of change, agricultural manpower is decreasing in all of the countries of Western Europe and North America with the possible exception of Greece and Turkey.

In most countries adjustments in agricultural manpower have been complicated by higher birth rates in rural areas than in urban areas. In the absence of migration, the rate of growth in the agricultural labor force would have exceeded the rate of growth in the nonagricultural labor force at the same time that the forces of economic growth were dictating a reduction in the agricultural labor force and rapid growth in the nonagricultural labor force. Migration, therefore, has served as the vehicle through which nonagricultural manpower needs have been brought into correspondence with the large supplies of labor which are underemployed in rural areas. As a result, underemployment has been decreased. Nevertheless, migration has not been sufficient to remove agricultural underemployment and the earnings of labor in agriculture remain comparatively low. In view of the continued introduction of improved technology, therefore, market forces are expected to provide strong incentives for migration from rural areas during the present decade. One recent study concludes that the rate of decline in the farm labor force will be 25-30 per cent in most OECD countries.* Even this will not be sufficient to remove the underemployment in agriculture.

Although social scientists and government officials in the countries included in this study are now generally agreed that continued economic growth will result in further reductions in agricultural manpower, the transfer of labor from farm to nonfarm vocations was not so readily accepted at an earlier date. The roots of farm fundamentalism penetrated deeply into the culture of western rural societies. The strength of the farm fundamentalist philosophy is evidenced by the paucity of studies dealing with the economic and social consequences of rationalisation of agriculture under conditions of rapid economic development. For the most part, the changes which have taken place have been unstructured with little or no guidance from public policies and programs.

Even though the desirability of further reductions in agricultural manpower is now rather generally accepted, agricultural fundamentalism still is evidenced in many ways. It is evidenced in public policy, in the types of educational and training programs made available to rural youth and in estimates of optimal adjustments in the agricultural labor force. For example, estimates of optimal adjustments of agricultural manpower tend to be expressed in terms of some minimum percentage of the population or labor force which should be agricultural. While mobility per se

* F. Dovring, "Problems of Manpower in Agriculture", OECD Documentation in Agriculture and Food No. 67, Paris 1964, p.61.

is hardly a worthwhile goal for society, certainly the optimal size of the agricultural labor force must be determined with reference to the size of the market for farm products, the technology employed in agriculture and the demand for labor in nonagricultural occupations. From the discussion presented above, it is clear that in a developing economy these variables are dynamic and that estimates of optimal size and composition of the agricultural labor force should be developed in relation to changes anticipated in these variables over time. It is a mistake, therefore, to establish employment goals in agriculture as if the change taking place in the labor force were once and over changes. Analysis of the processes of change reveals their dynamic nature and emphasizes the need for continuing reassessment of the employment capacity of agriculture.

II

OCCUPATIONAL AND GEOGRAPHIC MOBILITY OF AGRICULTURAL MANPOWER

Mobility of a population is not an end in itself. It was emphasized in Chapter I that the need for mobility emanates from differences among industries and occupations in growth of employment capacity and from geographic differences in rates of growth in employment opportunities. From an economic standpoint, therefore, a study of mobility is concerned mainly with occupational and geographic mobility and the conditions facilitating or impeding this mobility. The purpose of this chapter is to describe the mobility of rural people and to examine the relevance of the patterns of mobility to the extent of it.

The need for occupational and geographic mobility is a function of the stage of economic development. Likewise, the impediments to mobility are related to the level of economic development. The nomadic tribes, for example, were geographically mobile but were occupationally immobile. They could maintain their occupation while migrating. Furthermore, in view of the low level of economic development there were limited occupational alternatives and little need for occupational mobility.

On the other hand, persons employed in industries and occupations with decreasing employment may face the need for occupational, if not geographic, mobility. Farming and mining fall in this category. The extensive substitution of capital for labor has made it necessary for many people employed in these industries to seek employment in other industries and in most countries to change residences in the process.

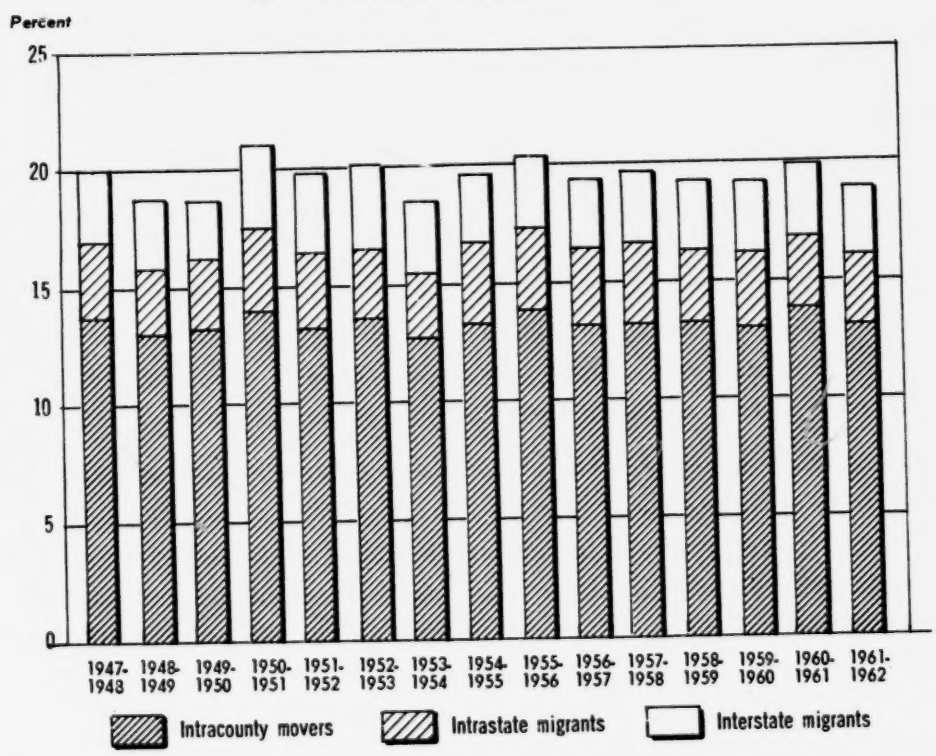
Fortunately, economic development not only creates a need for greater labor mobility but the very nature of economic development facilitates geographic and occupational mobility. The development of transportation and communication systems expedites geographic mobility by improving the information which people in isolated areas have about conditions in other areas and by making it easier to travel to and from other areas.

The development of labor market information systems enables people to make better occupational choices. The development of mass education and training programs enhances the occupational mobility of the population by making it less difficult for people to acquire flexibility for employment in different occupations. The mobility of the population should increase, therefore, with economic development.

The relatively high mobility of the population in a developing economy is illustrated in the United States where annual data on mobility have been obtained since 1948. The mobility rate not only is high but has been amazingly stable, ranging from a low of 18.6 per cent to 21.0 per cent (Fig. 1).* The equivalent of one-half of the population of the United States changed residence during the five-year period April 1957 - April 1962. Although most of the movement is to a different residence within the same county, about one-third of the migration is between counties and approximately 15 per cent is between states.

Figure 1.

MOVERS BY TYPE OF MOBILITY AS PERCENT OF THE CIVILIAN POPULATION 1 YEAR OLD AND OVER, FOR THE UNITED STATES: APRIL 1948 TO 1962



US Department of Commerce

Bureau of the Census

* Mobility of the Population of the United States, April 1961 to April 1962, Current Population Reports, Series P-20, No. 127, Bureau of the Census, January 15, 1964.

Statistics recently published by the Statistical Office of the European Economic Community illustrate the extent of internal migration among regions in some of the E.E.C. countries (Table 1).* The data in Fig. 1 represent changes in residence and are not comparable with the data in Table 1 where only migration among geographic regions is considered. Marriage and the formation of households, for example, would exert a greater influence upon changes in residence than upon population movements among regions. Neither are the data in Table 1 completely comparable among countries. Differences among countries in the size of regions and in the geographic distribution of economic activity affect the need for and amount of movement among regions. Nevertheless, the much lower rate in Italy than in the other countries and the upward trend in mobility in Italy in comparison with the relatively stable mobility in the other countries suggest that the population in Italy may have been relatively immobile. In most of the countries migration has been highly stable since 1958.

Table 1. Percent of Population Migrating among Regions within Selected EEC Countries

COUNTRY	1958	1959	1960	1961	1962
Germany	1.82	1.79	1.76	1.78	1.76
Italy	0.89	0.95	1.04	1.32	n.a.
Netherlands	2.11	2.09	2.10	2.11	2.06
Belgium	1.18	1.15	1.22	1.24	1.14

SOURCES: ISTAT, Annuario Statistico Italiano 1963 and Statistiques de l'Emploi, Statistiques Sociales, Office Statistique des Communautés Européennes, Luxembourg, 1963.

Occupational Mobility

The need for mobility stems largely from differences among industries and occupations in growth in the demand for labor. Since 1950 there have been large differences among the countries of Western Europe and North America in rates of growth in civilian employment. The data in Table 2 emphasize the vast differences which have occurred in rates of growth in demand for manpower. Germany and Canada have experienced the most rapid increases in employment while France, Norway and Austria have had the lowest rates of growth.

There is no necessary correlation, however, between growth in total employment and growth in national product or the need for mobility. In

* Statistiques Sociales, Statistiques de l'Emploi 1958-1962, Office Statistique des Communautés Européennes, Luxembourg. 1963, No. 4, pp. 222 ff.

fact, mobility of labor may be more crucial in an economy which has a very low rate of growth in the labor force but which is experiencing large scale improvements in technology and structural changes in its industry than in an economy which has a rapidly expanding labor force. Where there is little growth in the labor force, economic growth is heavily dependent upon technological improvement and increased labor productivity including the increases in productivity associated with occupational and geographic mobility.

Changes in nonagricultural employment in relation to agricultural employment provide a rough indicator of opportunities for occupational mobility. Between 1950 and 1962 nonagricultural employment increased in all of the countries listed in Table 2. The increase was more than 30 percent of the 1950 base in Germany, Canada, Italy, Switzerland and the Netherlands*. On the other hand, the increase was less than 15 percent in Greece, Sweden, Belgium, the United Kingdom, Norway and France. Agricultural employment decreased in all of the countries shown except Greece. The reductions were large in all countries. The largest percentage reductions occurred in Canada, Belgium, Sweden, Germany and the United States. Each of these countries experienced decreases of more than 30 per cent of the 1950 agricultural employment.

Table 2 gives some indication of the importance of the transfer of labor from agricultural to nonagricultural employment as a factor in economic growth. This is clearly evidenced in the case of Norway, Austria, France, Sweden and Belgium where growth in total employment was very small but where a rather large reduction in agricultural employment occurred as a modest increase in nonagricultural employment took place. In these countries growth in the nonagricultural labor force was heavily dependent upon reductions in the agricultural labor force. What is not known is the extent to which immobility of agricultural manpower may have impeded expansion of nonagricultural employment in these countries. However, the fact that each of these countries was experiencing full employment and that some found it necessary to recruit labor from other countries suggests that immobility of agricultural manpower was an impediment to growth in nonagricultural employment. Moreover, in view of the continued extensive underemployment of labor in agriculture and the persistence of relatively low earnings of labor employed in agriculture, it is quite likely that more extensive transfer of labor from agricultural to nonagricultural employment would have been accompanied by a higher rate of economic growth.

* In some of these countries, especially Germany and Italy, the high percentage increase in employment undoubtedly is influenced by the fact that unemployment was relatively high in 1950.

Table 2. Changes in Agricultural and Nonagricultural Employment in Selected OECD Countries, 1950-1962

COUNTRY	PERIOD	PERCENT INCREASE IN TOTAL EMPLOYMENT	INCREASE IN NONAGRICULTURAL EMPLOYMENT		CHANGE IN AGRICULTURAL EMPLOYMENT		ADDITIONAL NONFARM JOBS PER EMPLOYEE IN AGRICULTURE	RATIO NON-AGRICULTURAL INCREASE TO AGR. DECREASE	PERCENT LABOR FORCE IN AGRICULTURE AT BEGINNING
			Number	Percent	Number	Percent			
			(000)		(000)				
Austria[1]	1951-61	3.1	399	18.2	-297	-27.6	0.37	1.34	33.0
Belgium[1]	1950-62	5.7	316	10.8	-128	-34.8	0.86	2.47	11.1
Canada.....	1950-62	24.9	1,606	40.6	-365	-35.8	1.58	4.40	20.5
Denmark[1]	1950-60	4.6	233	15.4	-135	-28.7	0.47	1.35	24.5
France[1]	1954-62	1.0	1,533	12.5	-1,342	-25.7	0.29	1.14	28.2
Germany[1]	1950-62	26.1	6,870	44.8	-1,555	-31.0	1.37	4.42	24.7
Greece[1] [2]	1951-61	20.6[2]	33	2.3	+552	+40.4[2]	0.02[2]	-	48.2[2]
Italy[1]	1954-62	15.7	3,964	38.7	-1,282	-18.8	0.59	3.09	39.9
Netherlands[1]..	1950-62	15.1	670	21.0	-108	-20.3	1.26	6.20	14.3
Norway	1950-62	3.0	132	12.2	-90	-26.9	0.40	1.47	23.6
Sweden.....	1950-60	4.5	325	12.7	-185	-34.4	0.92	1.75	17.4
Switzerland ..	1950-60	17.0	440	24.6	-75	-21.1	1.24	5.87	16.5
U.K.[1]	1950-62	9.3	2,368	11.1	-269	-21.3	1.88	8.80	5.6
U.S.	1950-62	11.3	10,405	19.9	-2,307	-30.1	1.39	4.51	12.5

SOURCES: Manpower Statistics, 1950-62, OECD, Paris, 1963; and Census of Population 1950 and 1960 Sweden.

1. Including forestry, hunting and fishing.
2. The 1951 and 1961 Censuses are not comparable for Greece. A.G. Papandreou in "A Strategy for Greek Economic Development" published by the Center for Economic Research in Athens, 1962, estimates that comparable data for females employed in agriculture in 1951 and 1961 would show 1,900,000 employment in agriculture in 1951. On this basis there would be little increase in agriculture employment. Dovring, op. cit., shows an increase in employment of males in agriculture in Greece of 2.8 percent between 1951 and 1961.

The processes of manpower adjustment cannot be understood apart from the reasons for the adjustments. As was emphasized above, the rationale for the transfer of labor from agricultural to nonagricultural employment lies in the extensive underemployment of agricultural manpower, the relatively high earnings of nonagricultural manpower and the potential for increasing economic growth by transfer of labor. The extent to which gains may be associated with transfer of labor depends upon the relative value productivities of labor in the "giving" and the "receiving" industries. Rapid expansion of nonagricultural employment accompanied by rising wages would be expected to provide opportunities and incentives for transfer of labor.

Other things being equal, impediments to transfer of labor from agricultural to nonagricultural employment should decrease as nonagricultural employment increases in relation to agricultural employment. As suggested above, the growth in nonagricultural jobs per person employed in agriculture was very low in Greece, France, Austria and Norway. Denmark, Italy, Belgium and Sweden also had relatively small increases in nonagricultural employment per person in agricultural employment. In these countries less than two nonagriculture jobs were created for each reduction in agricultural employment.

Furthermore, with the exception of Belgium, in each of these countries the agricultural labor force constituted a relatively high percentage of the employed labor force in 1950. In order to achieve a high rate of growth in nonagricultural employment, therefore, it is likely that more extensive transfers of labor from agricultural to nonagricultural employment or recruitment of foreign labor would have been necessary.

It is not known, of course, whether growth in nonagricultural employment was impeded by immobility of agricultural manpower or whether the mobility of agricultural manpower is impeded by a low rate of growth in nonagricultural employment opportunities. Substantial reductions in agricultural manpower cannot be achieved without rapid growth in nonagricultural employment. Even in the United States, where only 7 per cent of employment is in agriculture, the rate of unemployment is an important factor determining the rate of transfer of agricultural manpower to nonagricultural employment. *

The growth in nonagricultural employment was highest relative to the size of the agricultural labor force in the United Kingdom, Canada, the U.S., Germany, the Netherlands and Switzerland. These countries added more than one nonagricultural job per person employed in agriculture. Nevertheless, some of these countries experienced a relatively small

* C.E. Bishop, "Economic Aspects of Changes in Farm Labor Force", Labor Mobility and Population in Agriculture, Iowa State University Press, 1961.

reduction in agricultural employment. This suggests that these countries are less dependent upon agricultural manpower for nonagricultural employment or that there may be less incentive for farm to nonfarm labor transfers in these countries.

The Decline in Farms and Farm Workers

The exodus of the agricultural labor force has been accompanied by a decrease in the number of farms in all of the countries included in this study for which data are available. As outlined in Chapter I, the changes in technological and economic conditions which are taking place in agriculture exert continuing pressure upon small farms. Recent changes in farm numbers by size of holding are shown in Table 3. It is clear that the largest percentage reductions are taking place on the farms of less than 5 hectares. The percentage reduction decreases as the size of holding increases, and almost half of the countries are experiencing increases in the number of holdings of 10-50 hectares. In some countries the largest farms are also encountering increased economic pressure and are decreasing in number.

Fragmentary data suggest that the trends in size of farm holdings recently have accelerated for some countries. In Denmark, for example, the number of holdings of less than 5 hectares decreased almost 25 per cent from 1960 to 1963.* In the meantime there was an increase of 7 per cent in the number of holdings of 60-120 hectares. Sweden has had a similar experience, the number of farms between 2 and 5 hectares decreasing by 10.3 per cent between 1961 and 1963 while the number of farms with 50-100 hectares increased 3.2 per cent.** In Germany, between 1960 and 1963 there was a decrease of 10 per cent in the number of farms of 0.5 to 5 hectares while the number between 50 and 100 hectares increased about 3 per cent.***

The decrease in number of farms has been accompanied by a substantial decrease in the agricultural labor force. However, this reduction in the agricultural labor force has not been evenly distributed over occupational groups in agriculture. Recent changes in the active agricultural population are shown by occupational groups in Table 4. In all countries for which data are available, except Sweden and the United States, the decline in farmers has been less than the decline in hired workers and family workers. The mechanization and rationalization of agriculture increases the size of farm which can be operated by a farmer and his family. Accordingly, as agriculture is mechanized the number of hired workers and unpaid family

* Statistiske Efterretninger, Nr. 19, Maj 1964, 322.
** Riksforbundet Landsbygdens Folk, Styrelse Och Revisionsberattelse, 1963, Appendix 2.
*** Source: Statistisches Bundesamt.

Table 3. Changes in Numbers of Farm Holdings by Size Group, Selected OECD Member Countries

COUNTRY	PERIOD	CHANGE IN NUMBER OF HOLDINGS	PERCENTAGE CHANGES IN NUMBERS BY SIZE OF HOLDINGS (in ha.)						
			UNDER 5	5-10	10-20	20-50	50-100	100-200	OVER 200
Austria.....	1951-60	- 7%	-13	- 6	- 1	+ 3	+ 2	+ 7	+10
Belgium.....	1950-59	-21%	-35	-10	+ 8	+ 7	+ 5	---	-.06 ---
Canada.....	1951-61	-23%	(0-4) -32	---	(4-28) -39 ---	---	(28-97) -30 ---	(97-162) -20	(over 162) + 7
Denmark	1946-61	- 6%	-19	- 2	(10-15) + 4	(15-30) 0	(30-60) -10	---	(over 60) -16 ---
Germany	1949-62	-19%	-29	-20	+14	+10	+ 4	---	-13 ---
Netherlands...	1950-59	-12%	-40	- 6	+10	-0.6	---	- 4	---
Norway.....	1949-59	- 8%	-10	- 1	- 4	0	+ 7	---	+14 ---
Sweden	1951-61	-17%	-30	-16	-11	+ 4	0 0	---	-6 ---
Switzerland...	1939-55	-14%	-20	-10	+ 4	- 1	---	-16	---
U.K.	1950-60	-11%	(0-6) -11	---	(6-20) -11 ---	(20-40) - 6	(40-120) - 5	---	(over 120) +12 ---
U.S.	1950-59	-31%	(0-4) -50	---	(4-20) -45 ---	(20-40) -37	(40-105) -35	(105-200) - 1	+12

SOURCE: Low Incomes in Agriculture, OECD, Paris, 1964, p. 64.
N.B. No suitable figures are available for France, Greece, Italy, Portugal, Spain, Turkey and Yugoslavia.

workers declines. In most countries reduction in the number of hired workers precedes the reduction in family workers and the reduction in number of farmers lags behind that of other agricultural occupational groups. In some countries, however, (e.g. Holland) public policies have been enacted to alter this pattern of mobility in favor of other classes.

Mechanization reduces the agricultural work of females more than that of males. Many of the jobs which are now being mechanized formerly were done largely by females. After being mechanized, many of these jobs are performed by males. Mechanization, therefore, tends to be accompanied by a decrease in the agricultural employment of females. On the other hand, in Italy participation by females in the social security program now is contingent upon labor force participation. Regulations of this type obviously provide incentives for females to engage in farm work. Thus, while the employment of males in agriculture in Italy decreased 36 per cent between 1954 and 1963, the employment of females increased 25 per cent.* Except where institutional conditions are altered to provide incentives to the contrary, agricultural development is accompanied by a reduction in female participation in the agricultural labor force.

Occupational Inheritance in Agriculture

Numerous studies indicate association between the aspirations of sons and the occupations of their fathers. In an industry which is declining in employment, as in agriculture, there may be a high correlation between the occupations of those employed therein and the occupations of their fathers, but a low correlation between the occupations of fathers and those of their sons. The sons are more prone to transfer to other occupations.

A recent study provides information on the lifetime occupational mobility of males.** Eighty-two per cent of the farmers and farm managers in the United States had fathers who were farmers and farm managers while 60 per cent of the farm laborers and foremen had fathers in that occupational group.

Occupational inheritance rates are presented by major occupation groups in Table 5. The occupational inheritance of the farmers and farm managers is only moderately high; one in six of the sons of farmers and farm managers are currently in the same occupation as their fathers. The remainder is scattered over various occupational groups. The sons of farm laborers and foremen are less likely to remain in agriculture than are the sons of farmers and farm managers.

* Data supplied by Prof. Dell'Angelo, SVIMEZ.

** Current Population Reports, Lifetime Occupational Mobility of Adult Males, March 1962, Series P-23, No. 11, May 1964.

Table 4. Percentage Change in the Active Agricultural Population

COUNTRY	PERIOD	FARMERS	FAMILY WORKERS	NON-FAMILY WORKERS
Austria[1]	1951-61	--- -25	---	-46
Belgium	1950-62	n.a.	n.a.	-36
Canada	1950-60	--- -38	---	- 1
Denmark	1950-61	- 6[2]	-44	-44
France[3]	1954-62	-13	-35	-28
Germany	1950-60	--- -31[4]	---	-56[4]
Italy	1951-61	-14	-34	-34
Netherlands	1947-60	- 8[5]	-45[5]	-39[5]
Norway	1950-61	- 9	-30	-61
Sweden[1]	1950-60	-35	-37	-30
Switzerland[1]	1950-60	-15	--- -21	---
United Kingdom[1]	1950-60	--- - 3	---	-23
United States	1950-61	-32	-33	-19

SOURCE: Low Incomes in Agriculture, OECD, Paris, 1964, p. 28.

NOTES: 1. Including employment in forestry, hunting and fishing.
2. Assuming the number of farms and of farmers to be equal.
3. Including employment in forestry.
4. Regular workers only.
5. Regular male workers only.

Another study in the United States indicates that 39 per cent of the farm boys who were graduating from high school in 1959 planned a career in farming.* Clearly, this high proportion of the farm youth cannot be employed efficiently in farming.

In a recent study of occupational intentions of 1,440 students enrolled in agricultural schools in Sweden, more than one-fourth of the students planned to take over their father's farm (Table 6). Less than 10 per cent planned to obtain employment outside of agriculture. However, the extent to which those attending agricultural schools are representative of all farm youth is unknown. There is some indication that a high proportion of those attending the agricultural schools are from the large farms. If this is correct, these youth would have relatively favorable employment opportunities in agriculture and a high proportion of them would be expected to select careers in agriculture.

From these studies it is clear that a vast majority of those employed in agriculture are sons of farmers but that most of the sons of farmers seek employment in nonagricultural occupations. Even so, occupational inheritance is excessive in agriculture and more sons remain on farms than can expect to make a reasonable living from farming.

* D.R. Kaldor, et. al., "Occupational Plans of Iowa Farm Boys," Iowa Agricultural Experiment Station Research Bulletin 508, September 1962.

Table 5. Current Occupation by Father's Occupation-Noninstitutitonal Male Population 25-65 Years Old for the United States: March 1962 (The population in this report includes 718,000 members of the Armed Forces living off post or with their families on post; all other members of the Armed Forces are excluded.)[1]

FATHER'S OCCUPATION (percent distribution)	TOTAL POPULATION 25-64 YEARS OLD	CURRENT OCCUPATION: PROFESSIONAL, TECHNICAL AND KINDRED WORKERS	MANAGERS OFF'LS, AND PROPR'S, EXCEPT FARM	SALES WORKERS	CLERICAL AND KINDRED WORKERS	CRAFTSMEN, FOREMEN, AND KINDRED WORKERS	OPERATIVES AND KINDRED WORKERS	SERVICE WORKERS, INCL. PRIVATE HOUSEHOLD	LABORERS, EXCEPT FARM AND MINE	FARMERS AND FARM MANAGERS	FARM LABORERS AND FOREMEN
Total.....	100.0	12.5	16.1	5.0	6.6	20.7	18.9	5.9	6.9	5.6	1.8
Professional, techn'l, and kindred workers...	100.0	41.0	17.5	9.0	6.9	8.7	10.3	3.1	2.0	1.8	0.4
Managers, off'ls, and propr's, exc. farm....	100.0	21.6	34.1	9.1	7.1	13.8	8.5	2.5	1.9	1.0	0.3
Sales workers.....	100.0	19.5	30.0	15.0	6.2	11.9	10.4	3.2	2.1	1.7	0.1
Clerical and kindred workers.....	100.0	28.0	17.8	7.8	9.6	16.9	9.2	6.0	3.0	1.3	0.0
Craftsmen, foremen and kindred workers	100.0	13.0	16.5	4.7	7.8	29.4	17.5	5.1	4.8	0.8	0.4
Operatives and kindred workers.....	100.0	11.7	12.2	4.4	6.6	23.8	25.9	5.9	7.5	0.9	0.9
Service workers, incl. private household	100.0	10.0	14.2	5.7	9.5	21.0	21.0	11.1	6.3	1.0	0.2
Laborers, except farm and mine	100.0	5.9	8.0	3.6	8.0	22.5	26.3	9.1	14.1	1.2	1.1
Farmers and farm mgrs.	100.0	5.3	11.5	2.5	4.7	10.7	20.5	5.2	8.5	17.8	4.3
Farm laborers and foremen.....	100.0	2.3	7.5	2.0	3.8	20.5	26.0	8.1	13.4	6.2	10.2
Occupations not reported	100.0	8.6	14.0	3.6	6.6	20.3	21.3	10.4	10.9	2.3	1.7

SOURCE: Current Population Reports, Series P-23, No. 11, May 12, 1964.

1. Excluding those not in experienced civilian labor force.

Table 6. Occupational Intentions of Students in Agricultural Schools, by Size of Farm, Sweden, 1950-51

HECTARES CROPLAND	FUTURE EMPLOYMENT CHOICE							TOTAL	
	a	b	c	d	e	f	g	percent	number
0	0.3	14.0	25.7	20.4	14.9	18.9	5.8	100.0	328
0.1-10	27.3	8.5	10.9	12.7	18.1	13.0	9.5	100.0	377
10-20	44.2	11.1	7.1	13.6	12.1	4.0	7.9	100.0	280
20-50	39.2	14.0	3.6	15.5	11.9	4.9	10.9	100.0	329
Over 50	34.9	11.9	7.2	15.9	20.6	--	9.5	100.0	126
Total	27.8	11.8	11.5	15.6	15.0	9.6	8.7	100.0	1,440

SOURCE: Statens offentliga utredningar 1955: 7.
a. take over father's farm.
b. farmer on another farm.
c. clerk in agriculture.
d. first clerk, then farmer.
e. mix of positive answers of a-d.
f. go outside agriculture.
g. do not know.

Mobility within Agriculture

A high proportion of the sons of farmers and farm managers accept employment as hired farm workers as their first occupation. In the United States almost 50 per cent of the sons of farmers obtain their first job in farm occupations.* Traditionally, sons of farmers worked as unpaid family workers' then as hired farm workers and as tenants and eventually became farm owner operators. The structural changes which have taken place in agriculture have virtually destroyed most of the rungs from this "agricultural ladder". The mobility across agricultural occupations has become increasingly difficult as the size of efficient farm units has increased with corresponding increases in capital requirements. In fact, in some countries it is generally recognized that hired farm workers have very little opportunity to become farm operators and special programs have been established to attract and hold people in farm worker occupations.

Farm wage workers do tend to be relatively mobile. Many of them are seasonal or migrant workers. As opportunities for improvement in occupational status within agriculture have decreased, opportunities for employment in nonagricultural occupations have increased and farm workers have transferred to nonagricultural occupations in large numbers. In the U.S. less than 4 per cent of the sons of farmers and farm managers are currently employed as hired farm workers and foremen while fewer than 10 per cent of the sons of hired farm workers and foremen are employed in that category.**

* Current Population Reports, Series P-23, No. 11, May 12, 1964.
** Ibid.

Part-time farming

Since the focus of this study is upon occupational and geographic mobility, emphasis is upon the individual worker and his employment decisions. In this context part-time farming is considered as the combination of farm and nonfarm employment by farmers or members of their families. This combination may be on a seasonal basis, as is frequently the case in combining forestry and farming, or it may be on a more or less year around basis as is typically the case in combinations of employment in manufacturing and in farming. Part-time farming usually results from a transfer of labor from farm to nonfarm occupations or involves a supplementary relationship between farm and nonfarm employment.

Part-time farming is most important near cities and in the vicinity of centers of industrial employment. With the exception of Denmark, part-time farming apparently is more important in Northern Europe than in Southern Europe. It is especially important in Norway and Sweden and is of increasing importance in Austria and Germany.

The types of occupations combined with farming depend upon the country concerned and more importantly upon the location within the country. Near urban centers members of farm households are employed in manufacturing, service and trade industries. In some areas fishing is combined with farming, while in other areas farmers depend heavily upon employment in forestry.

Part-time farming has expanded rapidly during the last two decades. Whether part-time farming will continue to grow is questionable. In many cases, part-time farming is a transitional step to full-time farming or to full-time nonfarm employment. Moreover, it is known that the sons of part-time farmers are more likely to transfer to full-time nonfarm employment than the sons of full-time farmers. More important is the fact that certain technological and economic forces are making the combination of farm and nonfarm employment more difficult. In the preceding discussion attention has been called to the increased capital requirements, increasingly complex management and attendant increased specialization in agriculture. Thus the changes which are taking place in agricultural technology and in the structure of agriculture encourage specialization in agricultural production. The increasing economic pressure upon small farms and the rapid decrease in their number have been emphasized above.

Furthermore, many nonfarm industries are experiencing rationalization comparable to that taking place in agriculture. Consequently, as the size of business increases, it becomes necessary to obtain full-time employees with special skills. Under such conditions seasonal and temporary employment decline. The structural changes taking place in the

lumber industry in Sweden illustrate the problems to be faced by many part-time farmers in the future. The mechanization of jobs in the lumber industry and the concomitant expansion in operations of firms have increased the demand for full-time employees in the lumber industry but have greatly decreased the possibilities for part-time farming in Northern Sweden. Likewise, in Norway the number of farmers engaged in forestry work and in hunting and fishing decreased by approximately one-fifth between 1949 and 1959.*

On the other hand, the trend toward a shorter work week and more leisure time may encourage more persons who are employed full time in the nonagricultural sector to supplement nonfarm employment with farming. Decentralization of industrial plants to rural areas also will facilitate growth in part-time farming.

There are forces, therefore, which may tend to increase part-time farming and other forces which discourage part-time farming. The net effect likely will differ among regions. In regions where large scale commercial agricultural production is predominant, part-time farming likely will decrease in the future. In regions characterized by industrial decentralization the combination of farm and nonfarm employment may continue to increase.

Occupational Choice of Migrants

The incentive to migrate depends upon the potential earnings after migration. The earnings of labor vary with skill level and occupation. Likewise, the opportunity to migrate depends upon growth of employment in occupations for which migrants can qualify.

Relatively little is known about the occupations entered by migrants from rural areas. The information which is available suggests that the type of employment varies from one area to another. A high proportion of the female migrants are employed in the service and manufacturing industries.** A high percentage of the male migrants enter the building trades and manufacturing or work as unskilled laborers. This selectivity likely reflects lack of training and skills for other occupations. It is shown in Table 5 that a high proportion of the sons of farmers in the United States who obtain nonagricultural employment enter the occupations of craftsmen, operatives and kindred workers or work as laborers in nonfarm occupations. These are unskilled and semiskilled occupations. Few sons of farmers enter professional and sales occupations. A recent study in Greece indicates

* Census of Agriculture, 1959.

** See, for example, Internal Migration, Vol. V, Housing and Population Census, March 1961, National Statistical Service of Greece, A: 9, Athens 1963, and "Report on the Exploratory Survey into Motivations and Circumstances of Rural Migration", National Statistical Service of Greece, A: 4, Athens 1962.

that more than 70 per cent of the male migrants from rural areas planned to obtain employment in service industries and as production process workers.*

Migration decisions also may be affected by expectations concerning promotion and further occupational mobility after migration. The occupational adjustment of farm people after they have entered the nonfarm labor force has received very little study. The problems of adjusting to the social and economic environment of urban areas have been studied extensively but little is known about occupational changes after entry into the nonagricultural labor force.**

In summary, significant changes are taking place in the employment mix among industries in the countries included in this study. Occupational mobility varies greatly among countries but agricultural employment is decreasing while nonagricultural employment is increasing. Few of the sons of persons employed in other occupations enter a career in farming. On the other hand, most farmers are sons of farmers. Occupational mobility within agriculture has become increasingly difficult as farm size and capital requirements have increased. The economic pressure upon small farms is particularly acute. More farm residents, therefore, are transferring to nonagricultural employment. Migrants from farms tend to enter the unskilled and semiskilled occupations. This occupational selectivity likely reflects low skill levels of the migrants. After entry into nonagricultural occupations, the occupational mobility of people from farms remains largely a mystery.

Geographic Mobility

Mobility within Agriculture

Within most countries there are substantial differences among regions in incomes of farm families. These differences might be expected to create incentives for migration of farmers from one region of a country to another. Migration of this type contributed greatly to the agricultural development of North America. At present, however, farmers are among the least mobile of the occupational groups. In the United States, for example, the mobility rate for farmers is 7 per cent compared with 9 per cent for other self employed persons.***

The current low mobility rate for farmers is undoubtedly influenced by the changes which are occurring in the structure of agriculture. The

* Ibid.

** I. Erixon, Preliminary Report on "Adaptation and Training of Rural Manpower Moving from Population Surplus Areas to Industrial Regions and Countries", OECD, MS/S/3044 (mimeographed).

*** Current Population Reports, Series P-20, No. 127, January 15, 1964.

increase in farm size and the accompanying increase in capital investment have made it more difficult to transfer among farms. Furthermore, the type of farming differs greatly among regions even within countries. Thus, the form of capital required for efficient farm operation also varies. A further complication stems from the increasing specialization in farming and the vast amount of knowledge needed for efficient farm management. The increased capital requirements and the managerial complexity of modern farming have been major factors contributing to the growth of specialised farms. These factors also complicate the managerial problems associated with transfer from one type of farming to another. On balance, they result in very little mobility of farmers among geographic regions. Once a farmer has become established the probability of moving to another region is very low. Most of the mobility which takes place within agriculture is short distance mobility of tenants, then transfers of farmer's sons in becoming established in farming and the migration of hired farm workers. Only the latter frequently is long distance migration.

While farmers are very immobile, farm workers in some countries are highly mobile. It was pointed out earlier that farm laborers are more prone to transfer to nonagricultural employment than farmers. They also are more mobile within agriculture. In the United States, for example, approximately one-third of the farm laborers and foremen change residence each year.* As in other countries, many of these workers are "migratory" laborers and are employed largely on a seasonal basis to meet peak labor requirements in the various type of farming regions. In Northern Europe there also is some evidence of migration from crop farms to horticultural farms and to dairy farms. These commodities tend to be produced near urban centers. The exodus from agriculture has been particularly heavy near centers of industrial growth. In some areas migration within agriculture has helped to replace the laborers who left these areas for nonagricultural employment. Even so, migration within agriculture makes up only a small part of the migration of agricultural manpower. The vast majority of the migrants go into nonagricultural occupations. Furthermore, it is quite likely that many of the migrants within agriculture eventually move to nonagricultural occupations.

Discernible Patterns of Migration

There are fairly well established patterns of geographic mobility of agricultural manpower. Perhaps the most striking fact has been the large net efflux of people from rural to urban areas. This direction of migration is clearly discernible in all countries included in this study. The following table illustrates the movement of population from rural to urban residences.

* Ibid.

Table 7. Internal Migration between Rural Areas and Towns in Selected OECD Countries

(thousands)

YEAR	GROSS MIGRATION BETWEEN RURAL DISTRICTS AND TOWNS		GROSS CHANGE FROM FARM TO NONFARM RESIDENCE
	NORWAY[a]	SWEDEN[b]	UNITED STATES[c]
1959	41.2	99.0	1,498
1960	46.3	109.8	1,309
1961	40.6	106.5	933
1962	43.3	106.0	n.a.

a. Data supplied by Central Bureau of Statistics of Norway.
b. Central Bureau of Statistics of Sweden.
c. Farm Population Estimates, ERS-130, USDA, Washington, D.C.

In the Netherlands migration from rural provinces between 1954 and 1958 was equal to 69 per cent of the birth surplus.* A recent study from Greece shows a migration from rural areas of 261 thousand persons between 1956 and 1960.** Semi-urban areas also experienced a net loss of population. Most of the exodus from rural areas, therefore, was to Athens, Salonika and other urban areas. Most of the migrants from rural areas go directly to the cities. As indicated earlier, however, there is evidence that some persons moving from rural areas establish temporary residences en route to urban areas. Another study of migration in Greece suggests that this step migration may be less important than commonly believed (Table 8).

Table 8. Out-migrants Classified According to Sex and According to Rural-Urban Character of Initial and Final Destination

(percent)

DESTINATION	INITIAL DESTINATION			FINAL DESTINATION		
	Males	Females	Total	Males	Females	Total
Within Greece.....	88.4	98.7	90.5	86.3	96.1	88.3
Athens	52.4	76.6	57.5	54.8	74.0	58.8
Other urban areas	19.9	13.0	18.4	16.4	11.7	15.4
Semi-urban areas	10.3	5.3	9.2	10.3	5.2	9.2
Rural areas	5.8	3.9	5.4	4.8	5.2	4.9
Abroad.....	11.3	1.3	9.2	13.4	3.9	11.4
Not reported.....	0.3	-	0.3	0.3	-	0.3
Total percent	100.0	100.0	100.0	100.0	100.0	100.0
Total numbers	292	77	369	292	77	369

SOURCE: Report on the Exploratory Survey into Motivations and Circumstances of Rural Migration, A: 4 Population, National Statistical Service of Greece, Athens, 1962, p. 16.

* G. Beijer, Rural Migrants in an Urban Setting, Martinus Nijhoff, The Hague, 1963.
** Internal Migration, Population and Housing Census 1961, A: 9 Population, Athens, 1963.

The pattern of migration of people from farms within countries varies with the stage of economic development. An expansion in nonagricultural employment initially draws labor from the farms in contiguous areas. Since the pattern of industrial development has been quite variable within most countries, this has meant that population pressure tended to accumulate in remote rural areas. In most countries included in this study, however, industrial development has become so extensive and dispersed that the highest rates of migration from agriculture now are occurring in the remote agricultural areas which are characterized by low returns for farm labor. The lag in migration from the most remote areas is related to the extent of industrial development, the location of industry, and social and cultural differences among the population within countries.

International Mobility

Little information is available concerning the occupations of those who migrate to other countries. Available data indicate that Germany, Switzerland and France recently have recruited labor extensively from other countries. Large numbers of people have migrated from Italy and Greece to Germany and Switzerland. In 1962 more than 110,000 persons migrated from Greece. It is known that many of the migrants came from rural areas. It is not known, however, how many of these were employed in agriculture prior to migration.

Much better data are available concerning the occupations of foreigners in the country of their destination. It is estimated, for example, that France brings in ten to fifteen thousand permanent agricultural workers per year and around 100,000 seasonal workers.* The beet and wine industries use large numbers of foreign workers seasonally. Approximately one-half of all foreign workers entering France are employed in agriculture.** In 1963 approximately 20 per cent of the permanent immigrant workers to France and 95 per cent of the seasonal immigrant workers were employed in agriculture.*** A higher proportion of foreign workers are employed in agriculture in France than is the case of other Western European countries. In Germany, Belgium and Holland only 1 to 2 percent of the foreign workers are employed in agriculture.

Population Movement to Rural Areas

Thus far, emphasis has been placed upon the transfer of labor from agriculture to nonagricultural employment. Migration, however, involves

* Information supplied by Mr. Lenoble of Federation Professionnelle Agricole pour la Main-d'Œuvre Saisonnière.

** Statistiques Sociales, op. cit.

*** Data supplied by Mr. Pierre Legendre, Ministry of Agriculture, France.

a two-way flow of people. Studies of net migration are helpful in analyses of incentives for adjustments in employment of manpower. Gross migration, on the other hand, may provide better approximations of the responsiveness of people to changes in economic and social conditions. The ratio of net migration to gross migration is sometimes taken as an indication of the efficiency of migration. Even if mobility were perfect, it is still conceivable that a substantial movement of people to rural areas could occur at the same time that a substantial net exodus from rural areas was taking place. A large movement into agriculture in a country which is experiencing a large exodus from agriculture may be evidence of excessive mobility, mistaken expectations and social waste. On the other hand, such migration may not represent a backflow at all but may reflect differences in characteristics of the in-migrants and the out-migrants.

Little is known concerning the extent or composition of migrants into agriculture. The general impression among social scientists and government workers is that migration from agriculture is a one-way street. One study concludes that "once established in the town, it is natural, therefore, that the workers do not often go back to the country. The process of urbanization seems usually to be an irreversible one".* Upon closer examination this conclusion probably is optimistic.

There are at least four different types of population movements to rural areas. Historically, the flow of manpower has been from agricultural to nonagricultural occupations. In some respects, agriculture has served as a stock of manpower for nonagricultural development and, therefore, as a residual claimant on manpower. In this context, people who return to agriculture probably do so because they have experienced unfavorable nonagricultural employment conditions. In this case farm to nonfarm migration results in disillusionment and return to agriculture, and the migration may be said to be inefficient.

A second case includes those people who have a strong preference for agricultural work but who find it desirable to obtain nonfarm employment as a means of accumulating sufficient capital to farm efficiently. Some of this type of occupational and geographic mobility occurs domestically and internationally but the extent is unknown. Some countries, e.g. Germany, which emphasize industrial decentralization also encourage the movement of labor to rural areas.

A third type of movement of population to rural areas involves geographic mobility but not a return to agricultural occupations. Some people prefer rural residences and move to rural areas even though they do not work in agricultural occupations.

* H. Krier, Rural Manpower and Industrial Development, OECD, 1961, p. 89.

A fourth case represents those who return to rural areas after military service, those who marry and move to rural areas and others whose movement should not be considered in the same context as the first case. Unfortunately, they are included in many statistical series on migration.

If the data were available, it would be desirable to separate out the above cases for study. In the absence of statistical series which lend themselves to this degree of refinement, the results of pertinent recent research will be reviewed.

Some recent studies indicate that the movement of people to rural areas (and perhaps a backflow) is quite significant. In Sweden, one study concludes that "the net loss (or net gain) of an area is usually only a small part of the total circulation".* Between 1959 and 1962 there was a migration of 421 thousand from rural parishes to towns and a migration of 344 thousand from towns to rural parishes.** Thus, net migration from rural parishes during this period was 77 thousand. On balance, between 1941 and 1962 the rural districts lost population at a rate of more than 20 thousand per year. Sweden also has had experience in assisting farm families to transfer to nonagricultural occupations. It is estimated that in some areas as much as one-third of those who migrate return to the rural areas within six months after migration.***

In Norway, migration from rural districts has been very stable. Between 1958 and 1962 migration from rural districts is estimated to be 211,476.**** During the same period, however, 203,580 persons migrated from towns to rural districts. How much of this migration is made up of agricultural manpower is not known.

Data from the United States show that between 1920 and 1960 almost 68 million persons changed from farm to nonfarm residences.***** During the same period 41 million persons changed from nonfarm to farm residences. On balance, therefore, net migration was only 27 millions.

The above studies provide very little information concerning the characteristics of those who move from towns to rural residences. The studies do not indicate whether those who move to rural areas are persons who formerly lived in rural areas or whether there is some transfer of persons who were reared in urban areas to rural areas.

* T. Hagerstrand, "Introduction to Rural Demography" in Rural Migration, Proceedings of the First Congress of the European Society for Rural Sociology, Bonn, 1959, p. 38.

** Central Bureau of Statistics of Sweden.

*** Data supplied by B. Rehnberg, National Labor Market Board, Stockholm.

**** Data supplied by P. Bog, Central Bureau of Statistics, Oslo.

***** Farm Population Estimates 1950-59, USDA, AMS-80, Feb. 1960.

A study in Greece provides some data on new residents and return migrants in four rural villages experiencing an exodus of population.* One person moved into the villages for each four who migrated from the villages during the ten-year period. Sixty per cent of those who moved into the villages were new residents. However, the origin of these people is not known. One of the villages in which a land settlement project was carried out accounted for two-thirds of the new residents. These people, therefore, are likely engaged in farming. It is not known, however, whether they came from other rural areas or from cities. Forty per cent of those moving into the rural villages were return-migrants. Only 11 per cent of the out-migrants from these rural villages during the ten-year period included in the study had returned to the villages. The Greek study does not provide information on the characteristics of the return-migrants or on the occupations in which they were employed after returning to the rural villages. Little information of this type is available in other countries.

It is generally believed that those who return from urban to rural areas do so after accumulating sufficient capital to develop their farm or that they engage in nonagricultural occupations. A recent study of occupational mobility between the farm and nonfarm sectors in the United States provides information concerning those who move back.** The results of this study do not support the capital accumulation theory of occupational transfers from nonagricultural to agricultural employment. This study was based upon social security data obtained for the period 1955-59. One-fifth of all off-farm movers returned to farming one year later.*** Those migrants who remained in nonfarm employment had substantially higher earnings than those who returned to farming. Most of those who entered farming were previous off-farm movers. A high proportion of those who returned engaged in dual employment. Forty per cent of those who moved from nonfarm to farm employment became farm operators during the period included in the study. The percentage of farm operators who returned to farming was greater than the percentage of farm wage workers.**** Those who returned to farming were older than those who remained in nonfarm employment. The fluidity of the labor market is further emphasized by the fact that only about half of those who moved to farm employment remained for two years or more in the farm sector. The backflow is substantial. Perkins concludes that "if in-farm mobility had been zero during the years 1956-59, the annual average reduction in the size of the farm

* Motivations and Circumstances of Rural Migration, A: 4 Population, National Statistical Service of Greece, Athens, 1962, p. 14.

** B.B. Perkins, "Labor Mobility between the Farm and Nonfarm Sector"; Ph. D. dissertation, Michigan State University, East Lansing, Mich., 1964.

*** Ibid., p. 34.

**** Ibid., p. 114.

labor force would have been 15.8 per cent instead of 3.6 per cent. Even if those who moved back into agriculture after only a year in the nonfarm sector had stayed in that sector, the net off-farm mobility rate would have been nearly doubled".*

Although the emphasis in research has been upon the movement of labor from agriculture, clearly more analysis should be made of the movement of population to rural areas. Much of the potential gain from facilitating off-farm migration and from the rationalization of agriculture may be lost as a result of a reverse flow of manpower into rural areas. Further study of the migration to rural areas should provide better information concerning the size of the backflow, the characteristics of those included in it and the reasons for this migration.

This chapter has focused upon the processes of adjustment of rural manpower. Emphasis has been upon those adjustments involving occupational and/or geographic mobility. Special attention was given to the extent of mobility and to its component parts. It was observed that there is a large flow of manpower from agricultural to nonagricultural occupations. On the other hand, there apparently is little mobility from nonagricultural to agricultural occupations except by persons who have had previous agricultural experience. The patterns of adjustment which have been observed are consistent with persistent underemployment of manpower in agriculture. Our task in the following chapters will be to indentify variables affecting the mobility of agricultural manpower and to determine why the lag in manpower adjustments persists.

* Ibid, p. 114.

III

FACTORS AFFECTING THE MOBILITY OF AGRICULTURAL MANPOWER

Occupational and geographic mobility are affected by a complex of technological, economic, psychological, sociological and institutional forces. Since labor must be delivered in person, the transfer from agricultural to nonagricultural employment usually involves spatial mobility as well as occupational mobility. Occupational decisions, therefore, often are interrelated with decisions with respect to residence. Accordingly, cultural and institutional factors are more significant in occupational decisions involving spatial mobility than for occupational choices not involving a change in residence.

Numerous studies have attempted to classify migrants according to the main reasons for leaving agriculture. Typically, they conclude that "the reasons for leaving agriculture are principally economic, in other words inadequate earnings or income, aggravated by the general conditions of work and life in the country".* These studies provide useful insights into the behavior of those who migrate. Many factors, however, affect the decisions of people to transfer from agricultural to nonagricultural employment. The purpose of this chapter is to identify variables which are logically expected to have a significant effect upon the rate of transfer of manpower from agricultural to nonagricultural employment. Over time the agricultural population is composed of those who migrate and those who are nonmigrants. Therefore, the problems of explaining variations in migration and variations in nonmigration are complementary. The variables which explain an important percentage of the variation in migration also explain the same percentage of the variation in nonmigration. In this chapter emphasis will be upon explaining the migration which takes place. The next chapter will focus upon further delineation of impediments to mobility.

* H. Krier, op. cit., p. 16.

Migration can be viewed in a costs and returns context. * In making decisions with respect to occupational and geographic mobility individuals would be expected to make a comparison of the earnings potential of their resources in agricultural employment and the potential earnings after transferring their manpower resources to nonagricultural employment. Individuals will be inclined to transfer to nonagricultural employment if the present value of earnings expected in the future from nonagricultural employment exceeds the present value of earnings expected in the future from agricultural employment by more than the costs of transferring to nonagricultural employment. Whether migration from an area will be high depends upon the potential nonfarm earnings of the manpower which is to be transferred.

Mobility Potential

Labor is not a homogeneous commodity. Neither can it be separated from the people who own it; it must be delivered in person. The characteristics of the people affect the productivity of their labor and also affect the demand for it. Although there is a continuous flow of labor from farm to nonfarm employment, the size of this flow varies considerably from year to year and not all groups of the population participate in the transfer to the same extent. **

Certain characteristics of a population determine the mobility potential of that population. These characteristics such as sex, age, race, education and training affect the nonagricultural earning capacity of manpower and also affect the willingness of people to transfer to nonagricultural occupations. Some jobs, for example, are performed largely by males. Growth in these jobs may provide opportunities for males to migrate and may alter the sex ratio in rural areas. Industrial employment policies may give priority to the employment of young workers and thus affect the age distribution of migrants from rural areas. In a sense, the agricultural labor force is a large labor pool possessing diverse characteristics. The demand and supply of labor varies with the characteristics. Mobility may be influenced, therefore, by altering the characteristics of the agricultural labor force or by altering the structure of the demand for labor in nonagricultural industries.

Sex Distribution

Migration potentials may differ for males and females. The changing structure of industry, accompanied by more rapid growth in the service

* A. Sjaastad, "The Costs and Returns of Human Migration", Journal of Political Economy, Vol. 70 1962, pp. 80-93.

** C.E. Bishop, op. cit.

industries than in manufacturing, has created increased opportunities for nonagricultural employment of females. The increased labor force participation of females reflects this growth in demand for their services. If there are significant differences between the sexes in transferring to nonagricultural employment, this should be reflected in the sex ratio of the migrants and in the sex ratio of the residual farm population.

A report on internal migration in Greece shows 8 per cent more females migrating from rural areas than males.* However, males between the ages of 20 and 24 who were in military service were not considered as migrants. Adjustment for this would eliminate the difference between males and females. Data from Norway indicate that approximately 25 per cent more females than males move from rural districts to towns each year.** But there is very little net migration between rural districts and towns in Norway, and the number of females migrating from towns to rural districts also is about 25 per cent greater than the number of males. On balance, therefore, there is no substantial difference between the sexes in the incidence of migration. In Sweden, between 1959 and 1962 there was a net migration to towns from rural parishes of 40,176 males and 36,663 females.***

Analysis of the sex and age of the farm population in the United States over time suggests some selectivity of the sexes in off-farm migration in that country. In 1920, there were 104 males for each 100 females in the farm population. By 1960, the ratio had increased to 1.09, with the ratio of males to females increasing consistently above 30 years of age.****

International migration is heavily weighted with males. The typical pattern is for the receiving country to restrict entry of families until the head of the household has become firmly established in employment. As a consequence labor force participation of females in agriculture may be increased in areas where the exodus of males has been large.*****

There is a substantial evidence that females are leaving the agricultural labor force at a higher rate than males. In Denmark, between 1953 and 1962 there was a 60 per cent decrease in the number of female farm workers compared with a 43 per cent decrease in males.****** Between 1950 and 1963 the number of full-time female agricultural workers in the United Kingdom decreased 53 per cent compared with a 36 per cent

* Internal Migration, op. cit., p. 41.
** Data supplied by P. Bog, Central Bureau of Statistics, Oslo.
*** Data obtained from Central Bureau of Statistics of Sweden.
**** U.S. Census of Population.
***** F. Dovring, "Problems of Manpower in Agriculture", OECD, 1964, p. 97.
****** Landbrugsstatistik 1962, Det Statistiske Department, Copenhagen, 1963, p. 8.

reduction in male workers during the same period.* Mechanization of farm jobs done by females has been important in decreasing the participation of females in the agricultural labor force.

The available data do not permit a clear cut determination of whether the incidence of migration is greater for females than for males. There are differences on a local level but when the comparison is made on a national basis, there appears to be little difference in net migration.

Age Distribution

The age distribution of a population may exert an important influence upon its mobility potential. Since migration involves costs as well as returns, migration rates are expected to be higher for the younger age groups. Those in the younger age groups have a longer working life after migration and, therefore, have a longer time in which to recover the costs of migration. Moreover, the employment and training of new personnel involves costs to employers. Other things being equal, young people are given preference in recruitment. The nonagricultural mobility of agricultural manpower, therefore, may be affected importantly by the age distribution of farm residents.

Occupational and geographic mobility are highly selective with respect to age. Peak mobility rates are reached in the early twenties and decline consistently thereafter. This pattern seems to apply almost universally. It applies for both sexes. There is a tendency, however, for females to leave at an earlier age than males. This is illustrated by Figure 2 which shows by age the number of migrants from rural districts to towns in Norway.

Data from the United States and countries of Western Europe show similar patterns of residential mobility.** In Greece, on the other hand, males tend to migrate at an earlier age than females.***

A recent study of occupational mobility in the United States shows that the highest rates of transfer from farm to nonfarm employment occur for persons under 25 years of age.**** The mobility rate decreases for each 10 year age interval thereafter, and it drops sharply after age 55.

The selectivity of migration with respect to age also is reflected in changes in the agricultural labor force. The decrease in young hired

* Annual Review and Determination of Guarantees, 1964 York House, Kingsway, London, w.c. 2, p. 26.

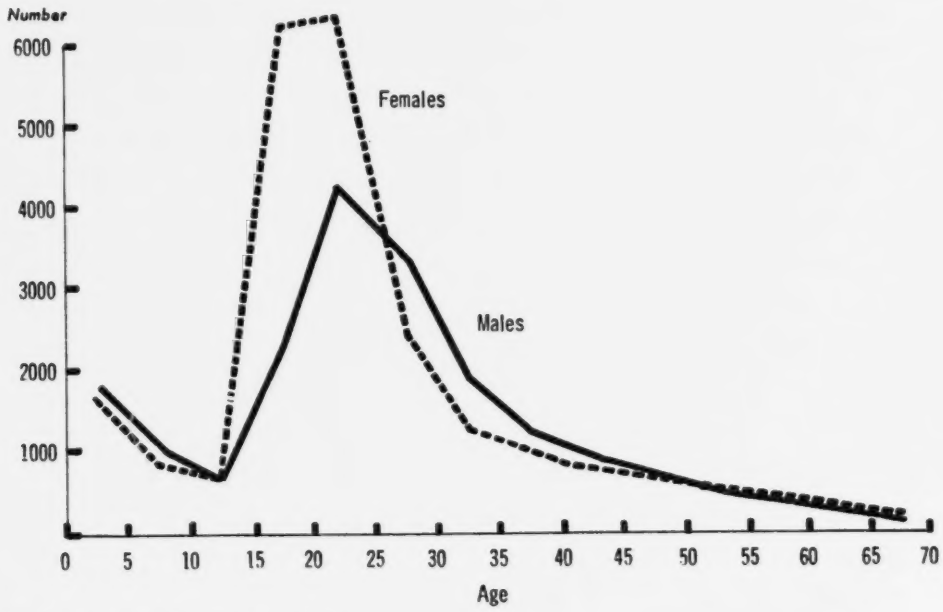
** Current Population Reports, Series P-23, No. 11, 1964.

*** Internal Migration, A: 9 Population, 1963, p. 51. This, however, may be due to differences in age at time of marriage. In Greece the females are older relative to males at time of marriage than in other OECD countries.

**** B.B. Perkins, op. cit., p. 59.

Figure 2.

MIGRATION FROM RURAL DISTRICTS TO TOWNS, BY AGE AND SEX, NORWAY, 1962



SOURCE: Central Bureau of Statistics.

workers has been very large. In Denmark, for example, between 1953 and 1962 there was a 69 per cent decrease in the number of male regular hired workers 19-20 years of age compared with a reduction of 52 per cent in all male regular hired workers.* In Italy, between 1958 and 1963 the number of males between 10 and 30 years of age employed in agriculture decreased 43 per cent and the number of females decreased 32 per cent.** In contrast, the number of employed males and females who were 50 years old and over increased.

The high degree of age selectivity of migration also is evidenced by the relative distribution of the agricultural labor force over age groups. Data presented in Table 9 show that although the proportion of the labor force employed in agriculture varies greatly among countries in all countries a high percentage of those 50 years old and over are employed in agriculture. In Italy more than half of the labor force over 60 years of age is employed in agriculture. In contrast, slightly more than one-fourth of those between 20 and 29 years of age are employed in agriculture. In the Netherlands, with the exception of those over 65 years of age, there is little variation over the various age groups in the percent of the labor force employed in agriculture. The Netherlands has a small percent of its labor force in agriculture, and the recent reduction in the agricultural

* Landbrugsstatistik, 1962, p. 8.

** Data supplied by Prof. Dell'Angelo, SVIMEZ.

labor force has been small in comparison with most other OECD countries. The farm population in the Netherlands, therefore, has been affected less adversely by age selectivity of migration than other countries. Except for the 14-19 age group the United States has the lowest percentage of persons employed in agriculture of any of the countries for which data are available.

Table 9. Agricultural Employment as a Percent of Total Employment, by Age, Selected OECD Countries, 1960

(percent)

COUNTRY	AGE GROUPS							TOTAL
	14-19	20-29	30-39	40-49	50-59	60-64	65+	
Belgium.....	10.4	7.6	9.1	11.5	14.0	17.9	34.9	11.3
France	24.0	18.7	19.8	22.0	27.2	31.1	42.4	23.8
Germany.....	7.2	10.5	13.4	13.9	17.3	24.3	44.7	14.2
Italy	27.4	26.5	28.8	31.1	38.2	51.4	63.3	32.3
Luxembourg..	9.7	12.8	12.2	11.4	21.8	45.9	35.4	16.4
Netherlands ..	9.5	10.5	11.1	11.1	13.9	14.3	28.4	11.9
Norway	12.1*	9.2	11.9	15.4	19.1	22.9	34.6	15.6
Sweden	8.4	5.5	8.0 (30-34)	10.5 (35-44)	13.8 (45-54)	19.2 (55-64)	31.7	10.9
U.S.	10.3	4.7	4.7	5.2	6.7	8.5	14.9	6.6

SOURCES: Statistical Information, Statistical Office of the European Communities, 1963, No. 2, Brussels and U.S. Census of Population 1960, Central Bureau of Statistics of Norway and Central Bureau of Statistics of Sweden.

* 15-19.

Two additional points are suggested by the data in Table 9. The rather large differences among countries in the proportion of the labor force employed in agriculture in the various age groups should raise questions concerning estimation of a "minimum" labor force in agriculture. As was pointed out earlier, a "minimum" must be considered with reference to the size of the market for the products of the country concerned and the technology employed in producing those products as well as the income level desired for farm people.

A second point should be obvious. Migration has taken a heavy toll in some age groups. It is presumed that persons in these age groups are in greatest demand in nonagricultural employment. Therefore, as the number in the age groups in greatest demand has decreased, the mobility potential of the agricultural labor force is decreased. Furthermore, as pointed out above, as age increases the difference in earnings in agricultural and nonagricultural employment must increase to make migration attractive.

Accordingly, because of the increased age of the residual population, the contribution which agricultural manpower may be expected to make to non-agricultural development has decreased sharply in some countries.

The impacts of migration have not been uniformly distributed among regions within countries. A very high percentage of those who are employable in nonagricultural occupations have been drained from some areas while other areas have experienced relatively small reductions in the most productive age groups. In some regions of southern France, for example, one-third of the farm operators are 65 years old or over and more than half of the farmers are 50 years old or over.* In contrast, in Normandy and Britanny the number of farm operators 65 years old and over makes up only 10-15 per cent of the total. Agricultural labor has been relatively immobile in the latter areas but mobility is likely to be enhanced in the future.

A recent study developed projections of migration of males from farms by age groups for the United States.** As was emphasized above, migration in the United States is highly selective with respect to age. Data presented in Table 10 indicate the number and percent by age of the 1960 rural farm population which is projected to migrate to nonfarm residences by 1970.

Table 10. Projections to 1970 for Males Remaining on Farms and Migrating Off Farms, United States

(thousands)

AGE IN 1960	NUMBER OF 1960 RURAL FARM MALES SURVIVING TO 1970	NUMBER EXPECTED TO BE RURAL FARM MALES IN 1970	IMPLIED OFF-FARM MIGRATION	
			Number	Percent of 1960
5-14	1,542	631	911	59.1
15-24	985	259	726	73.7
25-34	566	436	130	23.0
35-44	750	629	118	15.7
45-65	1,287	1,140	150	11.7
Total	5,130	3,095	2,035	39.7

SOURCE: "Manpower in Farming and Related Occupations", Education for a Changing World of Work, OE-80025, U.S. Department of Health, Education, and Welfare, 1963.

In the derivation of these estimates regression analyses of changes in numbers of farm operators by age since 1920 were used to indicate how changes in farm numbers are likely to be distributed among farm operators

* Data supplied by P. Legendre, Ministry of Agriculture, Paris.

** C.E. Bishop and G.S. Tolley, "Manpower in Farming and Related Occupations", Education for a Changing World of Work, OE-80025, U.S. Department of Health, Education, and Welfare, 1963.

in each age group. Reduction in entry into farming of young age groups is the major adjustment to a decline in the total number of farms. Although the rate of implied migration decreases rapidly as the age of rural farm males increases, migration of almost one of eight is projected for the age group 45-65. The same general pattern of migration is implied for all major regions of the United States.

Education and Training

The education and training of the rural population affects its productivity and its mobility potential. Education and training increase productivity and incomes within agriculture. Many studies have found education to be an important determinant of farm income.*

Even more important to occupational mobility, education increases earning capacity in nonagricultural employment. Educational and vocational training create special skills and expand the number of occupations for which an individual can qualify. Since education and training programs increase nonagricultural earning capacity, they increase the opportunity cost of farming and provide mobility incentives. Education also provides greater occupational flexibility and increases social flexibility. Increased education and training, therefore, would be expected to be associated with increased migration.

On the other hand, the structural changes which are taking place in agriculture also place a higher premium upon education and training in agricultural employment. It may well be that illiterates can be more productive on an assembly line performing very specialised simple tasks under close supervision than on a modern commercial farm where specialization is much less pronounced and where close supervision may be less feasible. Structural change in agriculture has resulted in a decreased demand for unskilled, illiterate farm workers. Accordingly, many of these workers have migrated to nonfarm areas. It is quite conceivable, therefore, that structural change in agriculture may be accompanied by a heavy exodus of the best educated and the least educated from agriculture.

Several studies have shown that migration is selective with respect to education. In the study of migrants from rural villages in Greece, the lowest rates of out-migration were for the illiterates and the rate of out-migration increased directly with increases in education.** Seventy-five per cent of those with more than a secondary education migrated from the rural villages.

* See, for example, Chapter on Norway in: Low Incomes in Agriculture, OECD, Paris, 1964, p. 338.

** "Motivations and Circumstances of Rural Migration", op. cit., p. 20.

A study of rural migration in the Netherlands concludes that those who migrate tend to have higher intelligence scores than nonmigrants.* There was a positive correlation between long distance migration and intelligence scores. Occupational choice in nonagricultural employment also was related to intelligence scores. The study concluded that "rural boys with an intelligence exceeding the average are selected by the educational system and trained for occupation which mainly occur in urbanized and urban areas".**

A study of male migrants, in Sweden concludes that "geographic mobility was definitely related to education".*** The migration to the larger towns especially increases with increases in education. The selective tendencies of migration were particularly pronounced for migrants from rural areas who changed counties of residence.****

A study of the educational selectivity of rural-urban migration in the United States concludes that the heavy rates of out-migration of the rural farm population occur among those with less than five years of formal schooling.***** The percentage of out-migrants decreases as the level of education reaches the five to eight year category and then increases for persons with more than eight years of formal schooling. The rate of out-migration is highest for young persons who have completed one or more years of college.

In most countries the agricultural labor force has relatively little formal education. The combination of an inferior education and educational selectivity of migrants has left the agricultural labor force with a lower level of formal schooling than the labor force in other economic sectors. This difference is very pronounced in Italy (Table 11). Very few in the Italian agricultural labor force have more than a primary education.

The school drop-out rate also is higher for rural than for urban students. A recent study in the United States shows significant differences in the rates at which rural and urban students drop out of school before finishing high school.****** Approximately 37 per cent of the rural youth between 16 and 24 years of age were considered dropouts compared with

* J.H.W. Liffering, "Selective Aspects of Rural Migration in the Netherlands", Rural Migration, European Congress of Rural Sociologists, Bonn, 1959, p. 104.

** Ibid.

*** E. Neymark, "Migration Differentials in Education, Intelligence and Social Background: Analyses of a Cohart of Swedish Males", Proceedings of the International Statistical Institute, Ottawa, Canada, 1963, p. 357.

**** Ibid., p. 360.

***** C.H. Hamilton, "Educational Selectivity of Rural-Urban Migration", Proceedings of Conference on Selected Studies of Migration since World War II. Milbank Memorial Fund, New York, 1957, pp. 110-122.

****** J.D. Cowhig, "School Drop-out Rates among Farm and Nonfarm Youth: 1950 and 1960", USDA Agricultural Economic Report No. 42, September 1963.

28 per cent of the urban youth. Moreover, the rural youth drop out of school after completing less school than their urban counterparts. More than 50 per cent of the dropouts among rural youth occur before they reach high school. In comparison, only about one-third of urban dropouts occur before reaching high school.

Table 11. Employed Persons by Sector of Economic Activity and Educational Qualification, 1962

(percent)

EDUCATIONAL LEVEL	AGRICULTURE	INDUSTRY	OTHERS	TOTAL
Primary schools*.....	98.4	85.9	62.0	82.2
Secondary schools	1.2	10.3	18.5	10.2
Diploma schools	0.3	3.1	13.1	5.3
Technical institutes ..	(0.1)	(1.7)	(3.8)	(1.9)
College degrees	0.1	0.7	6.4	2.3
Engineering and agr.	--	(0.3)	(0.8)	(0.4)

SOURCE: Annuario dell'agricoltura italiana 1963, p. 64.
* Including illiterates.

Other studies have shown that rural youth attend small schools, travel greater distances to school, attend less regularly and are more likely to be retarded in school.* The inferior general education of rural youth affects their vocational training and consequently their occupational choice. Data supplied by the Ministry of Labor in France show that rural youth have difficulty in qualifying for training programs for some of the more highly skilled occupations. Thus, because of insufficient general education, a relatively high percentage of trainees from rural areas are directed into the building trades in contrast with the metal working trades. A study of males in Sweden concluded that the differences in education between urban and rural males were "very large, especially as regards general schooling and those types of vocational training which required a high level of general schooling".**

There is substantial evidence that rural youth are not provided with education and training programs comparable to those provided for their urban counterparts. A more restricted educational program is offered for rural youth. Although all of the countries included in the study are developing vocational education programs, in most of them the schools are concentrated in or near urban centers. Accordingly, the costs of obtaining training usually are greater for rural youth because of the necessity for

* See, for example, H. Krier, op. cit., p. 39.
** E. Neymark, op. cit., p. 357.

providing transportation and boarding. Furthermore, in those areas where the productivity of agricultural labor is low and where farmers depend heavily upon labor intensive commodities, the short-run opportunity cost of remaining in school, especially if it becomes necessary to attend a school away from the home community, may be very high for farm youth.

The differences in education and training programs in rural and in urban areas undoubtedly influence occupational and geographic mobility. General education and vocational training in rural areas have placed heavy emphasis upon training people for agricultural employment. Therefore, education and training may have tended to discourage migration rather than to encourage it.*

Agricultural education in one form or another is available to a high proportion of the rural youth. Unfortunately, however, little emphasis is placed upon the employment capacity of agriculture and many youth choose agricultural occupations only to learn when they are older that there are very limited opportunities available to them. Thereafter, many of them become disillusioned and leave agriculture for unskilled occupations in other industries.** Better vocational guidance and improved education and vocational training programs more specifically oriented to nonagricultural employment would prepare rural youth to make better vocational decisions and would enable more of those who transfer from agriculture to obtain employment in semiskilled and skilled occupations.

Vocational guidance programs vary greatly among countries. Sweden and the Netherlands have highly developed programs. Greece, on the other hand, has a very limited program. There is a dire need for better vocational guidance and for better coordination of programs of general and vocational education. In Greece, for example, the ministries of labor, justice, agriculture, education and others each have jurisdiction over certain schools. Such parcellization of administration makes it difficult to plan and to execute programs consistent with the needs of a country. Moreover, it likely leads to excessive concentration of vocational schools in urban centers and to limited training programs in sparsely populated rural areas.

In summary, there is little doubt that in most OECD countries rural youth are not as well prepared for nonagricultural employment as their urban counterparts. Because of the high selectivity of occupational and geographic mobility with respect to age and because of the sharp decrease in mobility after becoming established in farming, improved occupational guidance and education and training programs in rural areas are especially important to better decisions concerning the use of manpower. Agricultural

* Review of Activities by International Organizations concerning the Transfer of Agricultural Manpower, OECD, Paris, September, 1964, p. 8.

** A. Maris, quoted in G. Beijer, op. cit.

adjustment and improvement in the mobility of agricultural manpower will remain impeded until rural youth are provided with educational opportunities which are comparable to those provided for urban youth.

Mobility Incentives and Motivations

Many studies have been made of the reasons for leaving agriculture. These studies usually classify the forces contributing to migration into those of a "pull" and those of a "push" character. The forces growing out of the rural area, e.g. low income, desire to improve financial and social conditions, uncertainty concerning agricultural productivity and incomes, changes in agricultural production technology and working conditions in agriculture are considered as "push" factors.* The converse of these conditions, high nonagricultural incomes, good working conditions in towns, attractions of city life, etc. are listed as factors exerting a pull effect to encourage migration. Obviously, such a clear dichotomy of forces does not exist. The "push" and "pull" factors are in fact essentially the supply of and the demand for labor. Hence, changes in one set of forces relative to the other create incentives for occupational and geographic mobility.

Economic development generates growth in the demand for nonfarm products relative to farm products. On the other hand, economic development results in greatly increased commercial output of farm products. In a country which is rapidly developing, the terms of trade, therefore, tend to move in favor of nonfarm products relative to farm products. In this process, as other resources are substituted for labor in agriculture the earnings of labor used in agriculture tend to fall relative to the earnings of labor in nonagricultural employment. The increase in earnings of labor in nonagricultural employment relative to the earnings of labor in agriculture provides an incentive for occupational mobility.

There are large differences among countries in the relative productivity of agricultural and nonagricultural labor. One report shows the relative productivities in 1956 to range from 0.4 to 1.0 for the countries included in this study.** These differences are reflected in the relative earnings of labor in agricultural and nonagricultural employment. In countries with extensive underemployment of labor in agriculture, the wage of agricultural labor is low in comparison to the wage of labor in other economic sectors. In other countries where agricultural labor is unionized or where the wage is established by government, the difference between the earnings of labor in agriculture and in other economic sectors is small.

* H. Krier, op. cit., pp. 16-27.
** Why Labor Leaves the Land, International Labor Office, Geneva, 1960, p. 197.

In Northern Europe the difference in labor earnings among sectors is less than in Southern Europe.

The significance of the difference in relative earnings of labor in farm and nonfarm employment is given in numerous studies. A study in Greece shows that 84 per cent of those migrating from rural areas indicated need for more work as the major reason while an additional 6 per cent indicated lack of land as the principal motivation for migrating.* In a study of out-migrants in France, three-fourths gave the main reasons for migrating as "wages or income too low, desire to have a trade, too many persons employed on the family farm, no future on the land and disparity between earnings and the hard work involved", all of which imply relatively higher earnings in nonagricultural employment.** A study in the United Kingdom shows that the incentive provided by higher nonagricultural earnings is much more important for those less than 25 years of age and that the relative importance of pay and working hours incentives decreases as the age of migrants increases.*** In the United States a regression of migration from farms on the relative earnings of farm and nonfarm labor indicates that during periods of relatively full employment migration is increased by increasing the wages of nonfarm workers relative to the earnings of farm workers. On the other hand, during periods of substantial unemployment farm people are willing to migrate to nonfarm jobs at prevailing relative wages implying that job rationing is the major impediment to migration.****

A study of the earnings of persons who transferred from farm to nonfarm occupations in the United States shows that those who obtained nonfarm employment had higher incomes during the year after migrating, although the amount of the increase varied from year to year.***** This study also concludes that the increase in earnings after transfer to nonfarm occupations was greater for those in the younger age groups and that the differential decreased consistently with increase in the age of those who transferred from farm to nonfarm employment.

There is ample evidence that the difference in earnings of labor in agricultural and nonagricultural employment provides an incentive for labor to transfer to nonfarm employment. Farm people are motivated by this incentive. The motivation is strongest among younger age groups where the difference in earnings also appears to be greatest. Population

* "Motivations and Circumstances of Rural Migration", op. cit., p. 21.
** H. Krier, op. cit., p. 16.
*** W.J.G. Cowie and A.K. Giles, "An Inquiry into Reasons for the Drift from the Land", University of Bristol, 1957, p. 85.
**** C.E. Bishop, op. cit., p. 47.
***** B.B. Perkins, op. cit., p. 84.

characteristics, therefore, have an important effect upon mobility in that they are specific to income earning capacity and they are specific to the costs of mobility.

A Quantitative Analysis of Farm-Nonfarm Migration

The above discussion has related particular variables to occupational and geographic mobility. A recent study presents a multiple regression analysis of farm-nonfarm migration in the Southeastern part of the United States.* The study relates the rate of migration by economic area during the decade 1950-60 to net farm income per capita at the beginning of the decade (I_i^F), capital gains to people in agriculture during the decade (G_i), a "skill" variable (S_i) representing the percent of rural farm males with employment experience in occupations most frequently entered by migrants, the percent of the rural farm population which is Negro (R_i) and the percent of the farm population in the 10-24 year age group at the beginning of the decade (A_i). The regression obtained is as follows:

$$Y_i = 18.536 - .047\ I_i^F - .079\ G_i + 1.321\ S_i + .094\ R_i + 1.242\ A_i$$
$$\qquad\qquad (.009) \quad (.039) \quad (.299) \quad (.042) \quad (.522)$$

where $R^2 = .667$ with 69 degrees of freedom.** On the basis of the standard errors shown in brackets, the coefficients on (I_i^F), (S_i) and (A_i) are statistically significant at the .01 probability level while those on (G_i) and (R_i) are statistically significant at the .05 level.

The elasticity of migration with respect to the variables (i.e. the percentage change in the absolute rate of migration likely to result from a one-percent change in the respective variable) may be computed by multiplying the regression coefficients by the ratio of the regional mean values of the respective variables and the regional mean rate of migration. The regional means of I_i^F, G_i, S_i, R_i and A_i are 213 dollars, 57.52 dollars, 7.21 per cent, 28.60 per cent and 28.78 per cent, respectively. The regional mean for Y_i, is 51.46 people per one hundred farm population. The elasticities of the rate of farm-nonfarm migration with respect to the variables are as follows: I_i^F -.194; G_i -.088; S_i +.185; R_i +.052 and A_i +.695. The practical meaning of these results is indicated below.

> "A farm income 10 per cent larger than the regional average in area i is expected to result in a migration... about one less migrant per one hundred expected end of decade farm population. ... If capital gains in area i over the decade are 10 per cent greater per acre than

* W.D. Diehl, "Farm-Nonfarm Migration in the Southeast: A Costs-Returns Analysis". Unpublished Ph. D. dissertation, Department of Agricultural Economics, North Carolina State University, 1964.

** Ibid., p. 30.

those of the region, it is expected that the migration rate will be about one-half person per one hundred expected end of decade farm population less than the regional average... If area i has one male more per one hundred farm population receiving nonfarm job experience than the regional average, it may be expected to experience a migration rate of about one more per one hundred farm population than the regional average rate of migration... If the percent of the farm population that is Negro is 10 per cent larger in area i than the regional average, the migration rate in area i is expected to be about one-fourth person greater than the regional average... If area i has 10 per cent (2.87) more people 10-24 years old per one hundred farm population than the regional average, it may be expected to experience a migration rate of about 3.6 more per one hundred than the regional average rate..."*

The large elasticities obtained in the above study for the age, income and skill variables support the hypothesis that these factors are of considerable importance in the mobility of rural manpower. The relatively high proportion of the migration explained by the variables included in the study also should be emphasized. Viewed another way, the study may be interpreted to conclude that two-thirds of the failure to migrate is explained by differences in age, skills, and race of the population and by costs of migration. The policy implications of these findings to the development of training programs and to reducing the costs of migration are obvious.

* Ibid., p. 31-32.

IV

IMPEDIMENTS TO MOBILITY

In the preceding chapter emphasis was placed upon explaining recent mobility of agricultural manpower. Special attention was given to those population characteristics specific to nonagricultural income earning capacity and which might be expected to influence mobility decisions. The purpose of this chapter is to analyze in more detail institutional structures and other impediments to mobility. The mobility of the agricultural labor force is far from perfect. There is persistent underemployment of labor in agriculture in most, if not all, of the countries included in this study. Migration from farms and the rationalization of agriculture have not occurred to the extent required to remove the underemployment.

There are many impediments to labor mobility. They range from a deficiency in demand for labor in nonagricultural employment and social and economic stratification of the population to the characteristics and fixity of resources in farming. Moreover, there is no overriding single factor which is responsible for the immobility of labor. Rather, many factors are likely to contribute to immobility and the relative strength of the factors will vary among countries and regions.

There must, of course, always be impediments to mobility. Mobility, per se, is not a worthwhile social goal. Mobility is desired only when resource transfers will increase the social product. It is desirable, therefore, to have a balance of the forces facilitating and the forces impeding mobility such that labor moves from one occupation or one area to another only when the social product would be increased by such a move. The persistence of underemployment of rural manpower, however, is evidence that the flow of labor out of agriculture is not sufficient to remove the incentives for further migration. This immobility of agricultural manpower may be the result of conditions in the departing areas, conditions in the receiving areas or both. Impediments are considered from the standpoint of population characteristics, costs of mobility, structural rigidities in

agriculture, agricultural fundamentalist philosophies and policies and deficiencies in the infrastructure.

Population Characteristics

The importance of the characteristics of the rural population to the mobility of manpower was discussed in the preceding chapter. It was emphasized that the age and education and training of the population are especially significant factors influencing the earning capacity of labor in nonagricultural employment. It was pointed out that these characteristics affect both the supply of and demand for labor. Since migration is highly selective with respect to age and education and training, areas which have experienced heavy outmigration find that the remaining population is heavily skewed in the direction of those characteristics for which there is little demand in nonagricultural employment. The characteristics of the population, therefore, may serve as an impediment to its mobility.

The Costs of Mobility

The costs of occupational and geographic mobility may constitute barriers to the transfer of labor from agricultural to nonagricultural occupations. At least six costs appear to be relevant: (1) the opportunity costs of giving up the farm income which must be foregone, (2) the fixed costs associated with farming, (3) the direct costs of transfer, (4) the adjustment costs after transfer, (5) the costs of uncertainty with respect to future earnings and (6) the nonpecuniary costs of mobility.

Opportunity Costs

The incentive to transfer to nonagricultural employment depends upon the extent to which income can be increased by the transfer. If occupational mobility involves geographic mobility and means that farm income must be given up, the farm income foregone represents a cost of mobility. One study which treats farm income foregone as a cost of migration concludes that in the Southeastern part of the United States an increase of 20 dollars in per capita farm income decreases migration about one person per one hundred of the farm population.*

The above finding is most significant. It suggests, for example, that migration can be greatly reduced by public policies which increase agricultural incomes. It also suggests that migration will be reduced by improvements in agricultural structure and by other changes which increase per capita agricultural income.

* Ibid., p. 31.

Fixed Costs in Agriculture

Occupational and geographic mobility of agricultural manpower undoubtedly are impeded by the fixed costs which have been incurred in agriculture. The amount of capital invested in agriculture has increased rapidly during the last 20 years. Many farmers have invested heavily in their farms even though much of this investment is now obsolescent. Many now find that the capitalized value of the net earnings from assets is less than the acquisition price but greater than the salvage value. Hence, the assets may be "fixed". As a result of the drop in farm commodity prices, many farmers are living out of fixed costs. Nevertheless, they are reluctant to transfer to nonfarm employment at least until their assets have further depreciated.

These fixed costs include land and buildings as well as machinery and equipment. In some areas where farm incomes are very low and where extensive outmigration has taken place, there is little demand for land. Accordingly, many farmers who might otherwise choose to transfer to nonagricultural employment encounter difficulty in liquidating agricultural assets. This difficulty in liquidating assets finds its extreme in farm skills. Very little production technology can be transferred from agricultural to nonagricultural occupations. For all practical purposes farm production skills must be written off as having zero value in most nonagricultural occupations. Persons who have invested in acquiring technical proficiency in agricultural production, therefore, may be reluctant to change occupations.

Direct Costs of Transfer

The direct costs of moving depend upon the size of the family, the amount of property moved, the distance involved and the method of transportation. These costs vary from one country to another. Although many countries now provide some form of mobility assistance, very little research has been done to determine the cost of moving. One study reports on the costs of moving from one labor market area to another in the United States.* The average cost of moving for people other than those who were transferred by their employer was $ 180. Forty-five per cent of the moves cost less than $ 50. About one-third of all moves were for distances of less than 100 miles, and about one-fifth of the moves were for 600 miles or more. The cost of moving was related to the age of the family head. Younger heads had smaller families and less household equipment to move. Three-fourths of those who were less than 25 years of age moved for under $ 50. On the other hand, 37 per cent of the families whose head was 55 years old and over spent $ 200 or more in moving. These data suggest

* The Cost of Geographic Mobility, Area Redevelopment Administration, U.S. Department of Commerce, 1964.

that the burden of the direct cost of moving in the United States is light. For 83 per cent of the movers the cost was less than 10 per cent of a year's income.

Several countries now make mobility payments to assist migrants. The Swedish program is perhaps the most highly developed. In this program payments are provided to assist in defraying the costs of traveling to seek work, traveling to take up work, a starting allowance, a family allowance, a family travel allowance, a moving allowance and an installation allowance. The starting and installations allowances are paid by fixed sums. The family allowances depend upon the size of the family, the rent the family has to pay and the period of waiting before obtaining a dwelling in the new working place.* A 10 percent sample of family transfers in two counties shows the average costs in Table 12. The costs in Vasternorrland ranged between 3,010 and 8,731 Sw.cr. In Norbotten the costs ranged between 2688 and 7524 Sw.cr.

Table 12. Average Costs for Family Transfers by County in Sweden, January 1 - October 31, 1964

(Sw. cr.)

ITEM	COUNTY	
	VASTERNORRLAND	NORRBOTTEN
Travel to seek work.....	155	728
Travel to take up work	98	
Starting allowance	500	500
Family allowance	791	429
Family allowance travel	280	158
Removal allowance.....	1,071	901
Installation allowance	2,000	2,000
Total	4,895	4,716
Number of families	43	60

In France mobility payments also vary with distance, size of family, period of adjustment and related factors. It is estimated that the costs of family transfers in France average about 8,000 F. for a period of adjustment of up to six months.**

Adjustment Costs

The direct costs of moving constitute only a part of the costs of occupational and geographic mobility. The data supplied above indicate that

* Information supplied by B. Rehnberg, National Labor Market Board, Stockholm.
** Data supplied by M. Pierre Legendre, Ministry of Agriculture, Paris.

the costs of other items far exceed the actual costs of moving. In fact, the travel costs constitute less than one-half of the costs of transfer.

Retraining costs may also be important. No data are available concerning these costs.

Costs of Uncertainty

The instability of nonagricultural employment may serve as a deterrent to occupational mobility. Some farmers are inclined to discount nonagricultural earnings heavily because of uncertainty concerning the future income stream. This is especially true of workers whose earnings have been affected adversely by cyclical fluctuations in business activity. Unemployment insurance and other similar social benefits have removed much of the uncertainty concerning incomes in nonfarm employment and accordingly have reduced the barriers to mobility. However, a minimum period of employment usually is required in order to qualify for unemployment coverage. Special protection may be needed during this period of time.

Nonpecuniary Costs

Many nonpecuniary costs are involved in mobility. These grow out of differences in religious beliefs, strong family ties, and fear and uncertainty toward different environments. Cultural differences persist within as well as among countries. The forces of industrialization and urbanization have not permeated all regions. In some areas of the United States, Austria and Switzerland, for example, the traditional mountain culture has been preserved. Cultural differences serve as natural impediments to mobility. Migration from the South to the North in Italy and in the United States, for example, is impeded by attitudes toward people coming from the South.

Cultural heterogeneity undoubtedly serves as an impediment to mobility. Frequently, however, fear and ignorance are more effective impediments than other facets of the cultural complex. They are evidenced, for example, in the tendency for people from a given locality to migrate to the same area and for first generation migrants to settle in the same neighbourhood. In a study of persons who planned to migrate from rural villages in Greece, it was found that 42 per cent hoped to leave with relatives.* Others planned to follow relatives. The fear of moving into an unfamiliar milieu undoubtedly causes farm people to discount possible earnings from nonfarm employment and therefore impedes mobility.

Social stratification of occupations may also impose nonpecuniary costs and restrict mobility. For example, neither farmers nor farmers'

* "Motivations and Circumstances of Rural Migration", op. cit. p. 42.

sons wish to be employed as farm laborers. In fact, many are reluctant to accept nonfarm jobs in the unskilled labor category. Moreover, they are reluctant to accept a lower social position in a community after migration than they have attained in the community from which they migrate. Even though their money income may be higher in an urban environment than in a rural one, many people are reluctant to migrate because of the nonpecuniary costs. In fact, many of those who return to the rural areas from which they migrated likely do so because of the difficulty in making the social transition to an urban culture. A study of recent migrants in an urban area in the United States indicated that nearly one-half of those migrating to the urban area were "dissatisfied to the extent that they were hoping or actively planning to return to farming".* Further analysis showed the dissatisfaction to be related to the breadth of the cultural gap incurred in migration. Those who had moved into a culture which had been transplanted from the areas from which they migrated were most satisfied. Those who encountered a sharp cultural break were most dissatisfied.**

The costs of mobility are an important deterrent to the transfer of agricultural manpower to nonagricultural occupations. The direct cash costs are prohibitive for many families. Perhaps even more important are the costs of uncertainty and the nonpecuniary costs associated with the transfer.

Structural Change and Structural Rigidities

The structural changes which are implied by agricultural development are often extensive and many rigidities are encountered. These rigidities include the differential impacts of technological improvements, the seasonality of agricultural manpower requirements, imperfections in the land market and external impediments to structural change.

Technological Improvements and Structural Change

The fact that basic changes in technological and economic conditions continuously create a need for further structural changes in agriculture was emphasized in Chapter I. It was also pointed out that under conditions of rapid economic growth wage rate increases relative to prices of other agricultural inputs created additional incentives to substitute other inputs for labor in agricultural production.

Changes in agricultural wage rates relative to the prices of other inputs since 1950-51 are shown for selected OECD countries in Table 13.

* E.D. Smith, "Nonfarm Employment Information for Rural People", Journal of Farm Economics, Vol. 38, 1956, p. 820.

** Ibid.

Table 13. Changes in Various Input Prices Relative to the Change in Agricultural Wage Rates (based on price changes since 1950-51)

COUNTRY	1961-62			
	WAGES	FERTILIZERS	FEEDINGSTUFFS	MACHINERY
Belgium.....	100	55	61	108
Canada[1].....	100	91	--	104
Denmark[2]	100[3]	64	56	77[4]
France	100[3],[5]	43[6]	--	54[4]
Germany[7]	100	38	38	45
Italy[7],[8].....	100[3]	67	71	66
Netherlands[7]	100	51	47	--
Switzerland[9].....	100	63	69	84[9]
U.K.[7],[10]	100	60	62	--
United States	100	70	61	94

NOTES: 1. 1959-60.
2. 1950/51-54/55 = 100.
3. Based on ILO Statistics.
4. Including tools.
5. 1951 = 100.
6. Including pesticides.
7. Crop years.
8. 1960/61-1961/62 or 1960-61.
9. 1960-61.
10. 1954/55 = 100.

SOURCES: National publications and ILO Yearbook 1957, 1962, 1963.

In all countries agricultural wage rates have increased significantly relative to the prices of other major input categories except for machinery in Belgium and Canada. The input price changes have created an incentive to increase the use of other inputs relative to manpower. As a percent of total expenditures in agriculture labor decreased from 58 per cent to 46 per cent between 1950-51 and 1959-60 in Sweden, and in Germany costs for hired labour declined from 21 per cent of the total expenditure in 1950-51 to 12 per cent in 1961-62.* The decreases in relative expenditures on labor were accompanied by increases in relative expenditures on machinery and equipment. Employment of tractors increases sharply as may be seen in Table 14 for the EEC.

Table 14. Change in the Number of Agricultural Tractors by Country, 1950-1962

(thousands)

COUNTRY	1950	1962
Belgium	8.1	52.5
France	142.0	890.0
Germany	139.5	999.2
Italy	56.9	304.9
Luxembourg	1.3	6.7
Netherlands	19.8	76.0
Total	368.0	2,329.0

SOURCE: Etudes, Série Politique Sociale No. 8, Bruxelles 1964, p. 32.

* Stat. Jahrbuch uber Ernahrung Landwirtschaft und Forsten, 1958 and 1963. Private communication from Agricultural Economics Research Institute, Sweden.

The mechanization of agricultural production has been accompanied by significant changes in man-land ratio. The exodus of manpower and the increase in use of mechanical power were accompanied by a sharp decrease in the number and an increase in average size of farm holdings (Table 15).

Table 15. Percentage Changes in Numbers and Sizes of Farm Holdings

(percent)

COUNTRY	PERIOD	CHANGE IN NUMBER OF HOLDINGS	CHANGE IN AVERAGE SIZE OF HOLDINGS
Austria.....	1951-60	- 7	+10
Belgium.....	1950-59	-21	+21
Canada.....	1951-61	-23	+28
Denmark	1946-61	- 6	+ 4
Germany	1949-62	-19	+19
Netherlands	1950-59	-12	+22
Norway	1949-59	- 8	+ 6
Sweden.....	1951-61	-17	+12
Switzerland.....	1939-55	-14	+10
United Kingdom	1950-60	-11	n.a.
United States	1950-59	-31	+41

SOURCE: "Low Incomes in Agriculture", Agricultural Policy Reports, OECD, Paris, 1964, p. 29.

It was emphasized earlier that the major impact of structural change in agriculture is upon the small farms. Most of the decrease in number of farms has been farms with small areas of cropland. The decrease in small farms results from the nature of the technological improvements in agriculture. Mechanical improvements, in particular, have not been equally advantageous to all sizes of farms. Instead, mechanical innovations often prove to be costly for small farms.

The fact that mechanization affects the costs of farms differently creates problems in altering the structure of agriculture. Many farmers invest in machinery and equipment even though costs of production are increased thereby. There is little doubt that over-investment in farm machinery and equipment has been extensive in much of Western Europe and North America. After investing in mechanical means of production farmers are even more reluctant to transfer to nonagricultural employment. The increase in fixed costs decreases the geographic and occupational mobility of manpower. The impeding effects of over-investment can be reduced by dissemination of better information concerning economies of size in the use of machinery and equipment.

Another facet of agricultural development which has had an important effect upon manpower needs emerges indirectly from changes in technology. The adoption of biological, chemical and mechanical innovations has made it possible for farmers to specialize to a greater extent in the production of commodities for commercial markets. Labor, in effect, has been transferred from the production of agricultural inputs to the production of commercial products. The transition from the production of fertilizers on the farm to the purchase of commercial fertilizers freed labor. Likewise, the purchase of seeds and plants enabled farmers to transfer labor to other uses. Undoubtedly, the most important change of this kind resulted from the substitution of machinery for workstock. This substitution made it possible to transfer vast quantities of land and labor from the production of feed for workstock and the care of workstock to production of commercial farm products and to nonagricultural employment. This shift in resource use, growing out of the mechanization of farm production, has been one of the most important sources of increased farm output in the United States where the reduction in number of horses and mules has been from 25 million in 1920 to 2.9 million (many of which are hobby horses) in 19[illegible]. Between 1950 and 1962 the reduction in workstock freed 18 million acres of cropland for other uses.

In some of the countries of Western Europe the decrease in workstock numbers appears to have been relatively as important as in the United States. The decline in workstock numbers is shown for selected countries in the following table.

Table 16. Decrease in Workstock Numbers, Selected OECD Countries
(thousands)

COUNTRY	PERIOD	DECREASE IN NOMBER
Denmark.....	1953-63	316
Germany.....	1947-63	1,086
Netherlands	1950-63	104
Sweden	1959-64	768
United States	1950-59	4,900

SOURCE: Agricultural statistics publications in respective countries.

The effects of the decrease in manpower needs and the increase in land made available for production of commercial products which resulted from mechanization of production and the concomitant decrease in workstock population have been substantial. It should be emphasized, however, that this is a once and over change. Many of the horses remaining in North

America and in Western Europe are not used as workstock. It is unlikely, therefore, that continued reduction in workstock numbers can be counted on to add greatly to cropland for commercial production or to reduce the labor input. Nevertheless, the labor input will continue to be reduced as a result of the development and use of larger and more efficient machinery through more extensive use of chemicals and the adoption of other labor saving technologies.

Seasonality of Farm Work

The large seasonal differences in labor requirements in the production of farm products constitute a major obstacle to labor mobility, especially for regions which depend heavily upon monoculture of crops.* Mechanization of farm production has done much to reduce peak labor requirements. Relatively little progress, however, has been made in substituting capital for labor in the production of tobacco, grapes, other fruits, vegetables and some classes of livestock. The productivity of labor is very low for some of these commodities. The wage rate also is low. Reduction of the supply of agricultural manpower increases the wage paid for hired labor and increases the costs of producing the labor intensive commodities. Changes in the supply of agricultural manpower, therefore, would likely lead to more intensive efforts to substitute capital for labor or to changes in the product mix in those areas affected. Some areas in the United States are experiencing such changes. In some areas of France and other countries in Europe reductions in the supply of labor are bringing about changes in the product mix. In Holland, special training programs have been developed for hired workers in an effort to increase their productivity in agriculture and thereby increase their labor earnings. Austria is developing similar programs.

The seasonal differences in manpower needs complicate part-time farming in horticultural areas near cities and make it difficult to maintain the product mix in remote areas as labor is withdrawn from agriculture. In many areas virtually all of the available labor is employed during the seasonal peaks. Even so, many farmers must rely upon migratory labor or imported labor to meet peak needs. The marginal productivity of labor during the peak periods is very high even though it may be near zero during much of the remainder of the year. The costs of not having sufficient labor to meet the peak labor needs, may be very high. The failure to mechanize production, therefore, may perpetuate low labor productivity and discourage the release of agricultural manpower.

Utilization of labor per se is hardly a worthwhile goal. Very few areas, however, have been able to develop an agriculture which provides

* F. Dovring, op. cit., p. 55.

reasonable incomes for farm families when the manpower is employed for only short periods of the year. In order to reduce underemployment, it has been necessary to mechanize the peak labor jobs, thereby substituting capital for labor, or to alter the product mix in such a way as to achieve less seasonal variation in the labor input by providing employment for additional labor during the slack labor periods.

Imperfections in the Land Market

There is an obvious interconnection between the mobility of agricultural manpower and changes in land use. A recent study emphasizes this interrelation as follows:

"Changes in land use should affect large areas of land, but an improvement in farm structure should affect almost all land. It may, in fact, be claimed that nowhere in Europe has the farm structure yet reached a stage which can be considered as really satisfactory. Farms must be enlarged in all countries, even in the most favourable cases, in order to adapt them to the potentialities and requirements of modern techniques. This enlargement obviously calls for a corresponding reduction in the active agricultural population. The disappearance of small farms is making it possible to enlarge those which remain".*

There are many obstacles to changes in land use. Obstacles exist at the individual firm level and at the community level.** Among the more important obstacles are (1) the immobility of manpower, (2) the high premium on land ownership, (3) the capital gains from land ownership, (4) the low liquidity of investments in land, and (5) the lack of well conceived policy on agrarian structure.

The rate of migration of labor from agriculture varies greatly among and within countries. Although migration is heaviest from small farms, in many areas the exodus of labor has not been sufficient to decrease greatly the man-land ratio. The pressure of population upon land resources, therefore, constitutes a major impediment to changes in agrarian structure.

Moreover, even though manpower transfers from agriculture, it does not follow that changes will take place in the structure of agriculture. Some members of the family may transfer to nonagricultural employment while others remain in agriculture. In other cases farmers transfer to part-time employment off the farm. Furthermore, even when a family moves from a farm it does not necessarily rent or sell the land. The family may hold the land as protection against possible unemployment. This

* J. Klatzmann: "Obstacles to Shifts in the Use of Land", OECD Documentation in Agriculture and Food, No. 74, Paris, 1965, p. 31.

** Ibid.

practice is very common in parts of southern Europe and in the Appalachian Region of the United States. Under such conditions reorganization of agriculture may be prevented.

The low liquidity of investments in land and buildings constitutes a formidable barrier to migration from areas which have experienced a large exodus of agricultural manpower. In some areas there is a very low transfer rate of farm land.* In parts of Italy and France, for example, the market for farm land and buildings is very limited. In such cases the high fixed costs in land and buildings may constitute an important impediment to geographic mobility. In recognition of this fact several countries have created government agencies to purchase and resell land in areas where large scale outmigration is occurring.

In other areas structural change is impeded by the heavy premium placed upon land ownership and by the expectation of capital gains from land ownership. Land is regarded as a good investment in most countries. This is demonstrated by the fact that a great deal of nonfarm capital is invested in land where persons other than farmers are permitted to purchase land. In some countries ownership of land is given a high priority as a hedge against inflation. In addition, the benefits from many government programs designed to improve the incomes of farm families actually accrue to the owners of land. These provisions obviously decrease land transfers and impede structural changes.

Tenure rights in land also may serve as an impediment to mobility. These rights reduce the risks of employment and income variability in agriculture relative to nonagricultural employment. The rights are not generally transferable and therefore must be abandoned when migration from farms occurs. Without some form of compensation, tenants may be reluctant to give up tenure rights.

Changes in agrarian structure also are impeded by the failure of governments to develop and carry out policies designed to bring about improvements in structure.** Further clarification of the desirable uses of land and of the employment potential of agriculture is needed in all countries. Such information is essential to the development of a sound manpower policy for agriculture.

External Impediments to Structural Change

The interests in a large farm labor force extend beyond the farm sector. In many rural areas the entire business community has an interest in maintaining a large and prosperous farm sector. It is obvious that public policies designed to transfer manpower from agriculture may cause

* E.E. Lipinsky, "Mobilité des Terres", CEE, 1963.
** Klatzmann, op. cit.

financial injury to those who depend upon farm people for a market for their products. Without compensation, rural merchants of fertilizers, furniture, household appliances, food, etc. are likely to oppose public policies which they regard as designed to depopulate rural areas.

Agricultural Fundamentalist Philosophies and Policies

Agricultural fundamentalist philosophy has been an important influence in the development of public policies and programs affecting agriculture. The philosophy manifests itself in the many special considerations given to agriculture and to particular segments of agriculture in the various countries. Many of these considerations impede mobility and structural change.

Farm Fragmentation

The agricultural fundamentalist philosophy is evidenced in the desire of farmers for their sons to select farming as an occupation. There is a strong social value that ownership of land is desirable. Accordingly, customs have developed and laws have been enacted in some countries which have resulted in extreme parcellization and fragmentation of farms. In some countries fragmentation exacts heavy costs through inefficient use of manpower and other resources.*

Special Policies Concerning Land

In some countries, e.g. Netherlands and Greece, parcellization is required by law. In other countries, e.g. Denmark, parcellization is required for farms sold above a specified size. In some countries, e.g. Norway, priority in resale is given to small farms. In France and Denmark, amalgamation of farms above certain size is prohibited without special permission. The United States, Austria and other countries provide subsidized loans to purchase land. Most countries exempt the sale of farm property from capital gains taxes, thereby encouraging investment in land. In some cases, legislation specifies the use of land and even prevents the transfer of agricultural land to nonagricultural uses.** Many of these policies perpetuate small farms and impede the mobility of manpower.

Price and Income Policies

Special price and income policies have been developed for agriculture in most countries. These policies take the form of income payments to farmers, subsidized purchases of inputs, price supports and protection for

* K. Thompson, Farm Fragmentation in Greece, Center of Economic Research Monograph Series No. 5, Athens, Greece, 1963.

** Klatzmann, op. cit.

domestically produced farm products. Each of these policies seeks to increase per capita farm income and thereby constitutes an impediment to the mobility of agricultural manpower. Even in the United States where unemployment is relatively high, a recent study shows that an increase of 20 dollars in per capita farm income is associated with a decrease in off-farm migration of 1 per cent of the farm population.* In countries with full employment, the impediment is likely to be even greater.

Restrictions on Labor Use and Labor Mobility

Some countries have enacted legislation which directly influences the mobility of agricultural manpower. Italy enacted legislation limiting migration to cities where jobs were available. Sweden requires that a minimum amount of employment be guaranteed to farm workers. Germany requires that farmers who have received certain types of financial assistance not leave the rural area. In several countries social security provisions provide incentives to remain in agriculture.

This brief review of some provisions of legislation emphasizes the need to coordinate agricultural policies and manpower policies. Due consideration to the resource allocation effects of policies and programs is a necessary part of rational agricultural policy development.

Deficiencies in Infrastructure

Deficiencies in the infrastructure of the giving and of the receiving communities may impede mobility.

The Giving Communities

One of the most serious deficiencies in the giving communities is the lack of adequate education and training facilities to prepare rural youth for nonagricultural employment. This deficiency in education and training results in reduced nonagricultural earning capacity of potential migrants and thereby lowers the potential gains from occupational transfers. This has been discussed above.

Another deficiency in the less developed areas lies in the relatively poor system of communication of people in low income rural areas with the nonagricultural employment market. The importance of communication and information in mobility decisions is evidenced in the experiences of young men in military service. In almost all countries included in this study it was found that a high proportion of the young men who enter military service from rural areas choose to live in urban areas and accept non-

* Diehl, op. cit., p. 31.

agricultural employment after completion of their military service. Since military service is accompanied by very little emphasis on vocational education in preparation for a civilian career, it must be assumed that most of the migration which takes place following military service is a result of better information concerning employment and living conditions in the nonfarm sectors.

The Receiving Communities

Perhaps the most serious deficiency in the infrastructure of the receiving communities is the lack of adequate housing. Housing frequently is poor in rural areas. In virtually all rural areas in countries included in this study, however, the housing which exists is occupied on a family basis. In contrast, in several countries a serious shortage of urban housing exists and migration from rural areas is impeded by inadequate housing for potential migrants and their families. The lack of adequate housing is a serious impediment to migration.* The development of housing is rigidly controlled in some countries, and persons who migrate may find that their families are unable to accompany them for several years. Such difficulties obviously impede migration. In those countries where the shortage of housing is an important obstacle to mobility, the policy choice may be whether to construct more houses in urban areas or more industrial plants in rural areas. In some cases, it may be necessary to construct more houses before it will be possible to recruit a labor force for expanded industrial employment.

A related deficiency in the receiving communities is the lack of adequate institutions to assist migrants in becoming assimilated into the new communities. The problems of cultural assimilation constitute important nonpecuniary costs of geographic mobility. They are also important impediments to occupational mobility. The high proportion of migrants who experience difficulties in making the transition from rural to urban cultures was discussed under the section on nonpecuniary costs above.

In this chapter numerous impediments to the mobility of agricultural manpower have been discussed. Some of these, including certain characteristics of the residual population in rural areas and the costs of migration, represent natural impediments. Others such as the adoption of agricultural fundamentalist public policies and deficiencies in the infrastructure are either publicly created impediments or impediments which persist because of the failure to take the necessary public action to remove the impediments. The next chapter will discuss aids to mobility.

* Erixon, op. cit.

V

MOBILITY ASSISTANCE

In all OECD countries economic growth and development have been accompanied by migration from rural to urban areas. The magnitude of the efflux has varied greatly over time and among countries. Until recently the movement was largely unstructured, and governments took a position of indifference or actual discouragement concerning the exodus from rural areas. It was assumed that individuals acting of their own free will would make decisions which were consistent with optimal manpower use from an individual and social viewpoint.

Voluntary mobility of the population currently exceeds that of any previous period in modern history. There is, however, more public concern with respect to mobility than in the past. Problems have emerged relative to the extent to which mobility is desirable, the rate at which it should be brought about, the extent to which the public should invest in improving mobility, what forms this investment should take, the most desirable types of public investment in vocational education, whether geographic mobility should be subsidized for labor or for capital, and the interrelationships between manpower policy and policies with respect to housing and social overhead.

Moreover, in many countries power conflicts have developed between groups with interests in the rural population. The difference in manpower policy orientations of agricultural and other groups is evidenced in government and in government units as well as in private organizations. The agricultural groups have been reluctant to encourage transfers of labor from agricultural to nonagricultural employment. They have been more inclined toward price supports, tariffs and land use as policy variables. They have preferred that the labor force be influenced indirectly, and policies designed explicitly to reduce the agricultural labor force have been opposed or have not been encouraged. This "hands off" attitude of the agricultural groups placed them in direct opposition to the manpower

needs in industrial development. The trade and industry groups, seeking additional manpower to meet the needs for industrial development, have been much more inclined to approach mobility problems in a direct manner and where necessary to subsidize manpower transfers. They also have been inclined to favor more rapid rationalization of agriculture. The intensity of this power struggle varies among countries, but it is evident in all of them.

Manpower Policy Objectives

Increasing the mobility of manpower may or may not be desirable. Certainly mobility is not an end to be achieved as such. Manpower policy usually is directed toward the attainment of full employment to the extent that this is consistent with maximum economic growth. Manpower policy also is concerned with the allocation of manpower to those areas of employment which will yield maximum economic growth. Instead of emphasizing mobility per se, therefore, manpower policies should be directed toward improving the mobility potential of manpower through training and other programs in order to provide occupational and geographic flexibility and toward providing specific kinds of assistance to people to enable them to make and to carry out mobility decisions. In the development of policies to improve the mobility potential of agricultural manpower, a coordinated approach including the following elements seems to be needed: (1) policies and programs oriented primarily toward the agricultural communities, (2) training and retraining programs for rural residents, (3) improvements in information and guidance systems, (4) mobility payments and (5) policies and programs oriented toward improved assimilation in the receiving communities.

In Agricultural Communities

There is a disconcerting tendency among economists and others to gauge the underemployment of labor in agriculture in terms of the amount of labor which can be employed off the farm without reducing farm output. In crudest form, estimates of this kind assume that the kind and amount of farm products produced are optimal and that optimal technological choices have been made in producing these products. Removal of economic underemployment likely would result in changes in production technology as well as changes in farm product mix. Estimates of the amount of labor which could be employed in nonfarm employment without decreasing farm output, therefore, must be accepted as representing lower limits of recruitable labor for nonagricultural employment.

The failure of manpower to transfer from agricultural to nonagricultural occupations when the value of the product of the manpower would be

increased thereby results in obvious costs to society. Agricultural manpower research will be more helpful to policy makers, therefore, if it focuses upon the estimation of the product which must be foregone as a result of the immobility of rural manpower.

Surprisingly few studies have attempted to estimate the amount of labor which would be needed in agriculture if the industry were optimally organized. Agricultural manpower policies should be based upon considerations of optimal distribution of manpower among industries and occupations. Furthermore, these considerations should be developed in a dynamic context. There is in most countries a tendency to take the view that some specified percentage of the labor force should be employed in agriculture and that mobility policy should be directed to this end. It has been emphasized in this report that agricultural adjustment is not a once and over process - it is a process of adaptation to continuous change. Manpower needs can be defined only with respect to the relative demand for farm and nonfarm products and the technology employed in producing these products. Since these variables change significantly over time, an optimal distribution of the labor force also must be defined with respect to changes in these variables.

More attention should be given to the employment potential of agriculture, with special emphasis upon the number of persons who can be employed at specified income levels. When the desired levels are specified, it is possible to determine the changes in agrarian structure which will be needed to obtain these income levels. Impediments to structural change can then be more clearly identified and means of overcoming these impediments developed.

Some changes which clearly are needed in agriculture in order to increase the productivity of agricultural manpower and to improve mobility emerge from this study. The highly variable seasonal manpower needs in the production of some commodities have been emphasized. In some areas there is considerable unemployment of agricultural manpower except during the peak periods of demand. In these areas, the development of new technology which makes it possible to intensify mechanization of production may be necessary before agrarian structure can be greatly improved.

Much greater emphasis must be placed upon farm consolidation and prevention of parcellization and fragmentation if mechanical methods of production are to be efficiently employed. In an effort to increase consolidation some countries have adopted policies to subsidize early retirement of farmers on small farms provided the farm is made available for consolidation with other farms in the community. When directed toward the development of efficient units, such policies can greatly improve agrarian structure.

In some areas investments in land are not very easy to liquidate. There is a need for better planning of land use needs on a national and regional basis. In order to facilitate structural changes in areas of low liquidity it may be necessary for governments to support the price of land and to use zoning powers to guide the use of land. Property tax rates and capital gains tax rates also should be structured to encourage farm consolidation.

Changes in agrarian structure and mobility of agricultural manpower are impeded by artificially high price and income supports and subsidized purchases of farm inputs. In the establishment of such policies due consideration should be given to their potential impacts upon manpower mobility. The costs of arbitrarily increasing the returns for manpower services in agriculture may be particularly high in an economy characterized by full employment.

Other public policies which have been designed to provide assistance to farm people but which clearly impede mobility should be revised. For example, the conditions which must be met to qualify for social security coverage should be modified to remove minimum periods of employment in agriculture as a condition for coverage. At least, there should be free transferability between agricultural and nonagricultural occupations without loss of benefits.

In some instances the availability of subsidized credit to farmers is contingent upon a commitment to remain in the community for an extended period of time. Regulations of this type obviously restrict mobility. Other means of securing loans are available which may involve less risk of loss of capital and which would not impede manpower mobility.

Education and Training Programs

The importance of education and training to the mobility of manpower was discussed earlier in this report. The deficiencies of education and training of rural workers are emphasized in a recent report.

> "Experience has shown that this is usually inadequate, and that the promotion chances and work qualifications of former rural workers are, in general, slight. When they enter the nonagricultural labour force, they find themselves mostly in the group of unskilled workers - a marginal group. The great majority, especially older workers, stay in that marginal group without any chance of moving into another more advanced group, and if they want to change, or lose their job, there is little hope of their finding employment elsewhere". *

* G. Beijer, "National Rural Manpower - Adjustment to Industry", OECD, Paris, 1965, p. 25.

Manpower policy objectives cannot be separated from policies concerning human resource development. Occupational decisions and occupational mobility potential are developed early in life. Geographic and occupational mobility are highest among the youth. Rural youth will remain handicapped until their educational opportunities are equal to those of urban youth. Perhaps the greatest weakness in the educational programs for rural youth is in the area of general education. However, rural youth also are handicapped by the limited opportunities provided for them to take nonagricultural vocational training. In some countries, the emphasis placed upon vocational agricultural training attracts excessive manpower to agricultural occupations.

Better vocational education programs should be provided in the rural areas. This need is especially great in countries where nonagricultural employment opportunities are increasing rapidly and where full employment prevails. Other countries with considerable unemployment may find it more desirable to train people in the cities after migration from rural areas in order to reduce the risk of geographic immobility.

Training and retraining programs are becoming an increasingly important facet of manpower policy. Private and public expenditures for manpower training are likely to continue to increase for the foreseeable future. The effectiveness of these programs, however, will depend to a large degree upon the level of general education of the trainees. An improvement in general education also will help to overcome cultural impediments to migration.

Information Systems

Decisions to transfer from agricultural to nonagricultural employment are long run decisions. Private and social costs are involved in these decisions as well as private and social benefits. Migration costs and assistance to migrants, therefore, can be treated as investments in increasing the productivity of labor resources.*

It has become obvious that the information market performs poorly and that large social gains may be received from improving the information which people possess of employment conditions. Distance, itself, is a factor which influences mobility. Manpower mobility tends to be greater near areas of industrial growth. In part, this is the result of lower direct

* L.A. Sjaastad, op. cit.

costs of migrating from these areas. In most instances, however, industrial development has not occurred rapidly in areas of low farm income. Rather industrial development has tended initially to draw labor from those areas where the earnings of farm labor were relatively high and then to draw labor from more remote areas. It is possible, therefore, that the pattern of dissemination of information has a more important effect upon who migrates than the potential increase in earnings.

Further evidence of the malfunctioning of the information market is presented in the large number of migrants who return to rural areas. Much of this return migration must be presumed to represent disillusioned migrants. Given more accurate information, the costs of migrating and returning could have been eliminated. The costs of providing better information may be far less than the direct costs of two-way migration plus the loss in product associated with a bad decision.

Most countries now employ some form of public assistance to facilitate manpower mobility. Perhaps the most widely employed form of public assistance is that offered through publicly-supported employment agencies which transmit information concerning employment opportunities. There is evidence, however, that many migrants have little or no information concerning employment and living conditions in the areas to which they migrate. The vast majority of the migrants, in the United States do not have a definite job offer at the time of migration.* A very high proportion of those who migrate have friends and relatives in the areas to which they go. These friends and relatives serve as primary sources of information concerning job opportunities.

In Greece, a study of migrants from rural villages indicates that more than three-fourths of them depend upon informal contacts with relatives, friends and villagers for information on working and living conditions. Young people and females going to urban areas depend most heavily upon informal contacts.**

Perhaps the informal dissemination of information through friends and relatives is the best system that can be devised. It would seem possible, however, to use mass media and special educational programs to provide better and more regular information concerning employment conditions, wages and fringe benefits, housing conditions, educational opportunities and costs of living than migrants currently possess at the time of migration.

* E.D. Smith, op. cit., p. 815.
** "Motivations and Circumstances of Rural Migration", op. cit., p. 27.

Mobility Payments

Most OECD countries now have or are considering some form of subsidy to assist persons migrating from rural to urban areas. This study has shown that the costs of transferring families is a formidable obstacle to migration. Although the direct costs of transportation are small, the costs of assimilation and of family adjustment are sufficient to constitute a formidable barrier to low income families.

More countries likely will adopt a mobility payments program. The migration rate is much higher for young people. Although family size and costs of migration likely are somewhat less for young families, the lack of capital probably is a more serious impediment for young families than for older families. Furthermore, since those in the younger age groups have a longer expected employment life, the social benefits from subsidization of mobility are likely to be greater for young, well-trained people.

Assimilation in the Receiving Communities

The mobility potential of a population is determined in part by the social milieu within which the population resides. Most people naturally wish to stay in an area which is familiar to them. It should be expected that when asked where they wished to live most of them would specify their present location.* Based upon the knowledge which they have, people must be assumed to make decisions in accordance with their desires. The very fact that people remain in an area suggests that they believe that their welfare is higher there than it would be elsewhere.

The social milieu may pose a complex obstacle to labor mobility. There are significant cultural differences among countries. Religion, tradition and other variations in culture may pose obstacles to migration. In some cultures families and relatives are more closely knit than in others. These differences serve as strong impediments in some cultures compared with others.

The problems of adjustment of rural manpower to industry have been studied in detail in the Social Affairs Division of OECD.** There is an obvious, important interdependency between policies designed to expedite migration and policies to facilitate adjustment after migration. Unless migrants can be culturally and economically assimilated into the communities to which they migrate, disillusionment may be followed by a return to the rural areas.

* J. Gatlung, "The Movers and the Stayers", presented at Conference in Turin, 1961.
** See I. Erixon and G. Beijer, op. cit.

Assimilation into the new community is a complex process. The migrants are pulled in two directions - a nostalgic orientation toward the rural area and their relatives and friends and the necessity of acquiring a new culture with different personal relationships. In their efforts to accommodate migrants, some countries have adopted policies which actually tend to deter assimilation of migrants into the population of the communities to which they migrate. For example, social and economic stratification tend to be perpetuated through the construction of special hostels or housing districts for migrants, the formation of special clubs for migrants and other activities which tend to segregate migrants as a social and economic group.

Assimilation can be improved through greater use of reception centers, training schools, guidance councils, the provision of better housing and through the assistance of church and civic groups to reduce the feeling of insecurity, dissatisfaction and discrimination.*

Approaches to Mobility Differ among Countries

The countries included in this study differ greatly in level of economic development, patterns of industrial development, geographic characteristics, heterogeneity of population, agricultural fundamentalism and philosophical approaches to government action in facilitating mobility. Moreover, no country is relying upon any single policy variable to cope with its mobility problems.

Some countries have chosen to place primary emphasis upon encouraging the mobility of capital to low income, underdeveloped areas as a means of increasing occupational mobility without geographic mobility of manpower. Austria and Germany have given a high priority to this approach in an effort to prevent the exodus of people from rural areas. Other countries also have programs designed to increase industrial decentralization.

Industrial decentralization is likely to be most successful in countries which have a rather large, geographically immobile, rural population and where transportation and communication systems are highly developed. Recent improvements in transportation systems have reduced costs of transportation relative to the costs of labor and other inputs and, therefore, have altered locational advantages in industrial development.

Other countries use geographic mobility as a counterpart to policies to improve occupational mobility. In some countries areas of greatest potential growth in employment opportunities have been identified and policies have been initiated to encourage the movement of manpower to

* G. Beijer, op. cit.

these growth centers. Various kinds of guidance programs have been established and payments are made to compensate migrants for the costs of migration and adjustment in areas where additional manpower is needed.

The costs of developing employment opportunities in rural areas and the development of the requisite infrastructure in rural areas may be less than the costs of developing employment opportunities and infrastructure (including housing) in urban centers. Moreover, occupational mobility of agricultural manpower may be more readily achieved in rural areas than occupational mobility which requires geographic mobility to urban centers. Certainly, alternative means of achieving improved occupational mobility should be considered. Different means likely will be more effective in different situations. Most countries have a combination of programs. Some examples are presented below.

Sweden*

The Swedish program of manpower mobility has a two-fold objective of preventing the development of depressed areas and of building viable communities. The program, therefore, includes an industrial location policy and a manpower mobility policy.

Industrial location policy is based upon study to identify those communities with greatest development potential. The state provides assistance in the improvement of the infrastructure, construction of buildings, underwriting of loans, tax allowances, and training allowances to encourage industrial development in desirable locations.**

An effort is made to get people to relocate in order to be within a driving time of one hour from a viable community. Farm income potentials are estimated and persons living on farms which have very limited possibilities are encouraged to transfer to other locations or to other occupations. In areas where the liquidity of land is low the Agricultural Board is empowered to buy and sell land in order to improve liquidity and to promote improvements in the agrarian structure. The Board absorbs any losses incurred in buying and selling of land.

Occupational mobility is emphasized through training and retraining programs. About 1 per cent of the labor force is retrained annually.*** Trainees receive a training allowance for themselves and their families and their rent is paid.

* This section draws heavily upon B. Olsson, "Employment Policy in Sweden", International Labor Review, Vol. LXXXVII, No. 5, May 1963.

** T. Buregren, "Industrial Location Policy in Sweden", National Labor Market Board, Stockholm, May 1964.

*** B. Olsson, op. cit., p. 16.

Geographic mobility also is emphasized.

"Placement offices can now offer a number of financial incentives to encourage geographical mobility. Most of these have been introduced only during the last five years; they include the following:

Placement offices can pay the travel and removal costs of a worker and his family to a new workplace; this allowance is payable even though the worker may not have committed himself to accept the job, and only wishes to look over the situation on the spot.

A worker who moves from an area of manpower surplus receives a government grant of 300 crowns (it is proposed to increase this sum to 500 crowns). This grant is payable even for temporary seasonal transfers, but is then somewhat reduced in proportion to the duration of employment.

To stimulate transfers from certain areas - called "pockets of unemployment" in Sweden - an additional special settlement grant of 2,000 crowns is payable if the transfer is permanent. If the worker transferred is a breadwinner who cannot immediately take his family with him - because of a housing shortage in the new workplace - he receives a housing indemnity for a maximum of nine months equal to the rent he is obliged to pay for his family at his old place of residence, and a special monthly allowance of 140 crowns for the wife and 45 crowns for every child under 16 years of age. The allowance for rent is reduced by one-third after three months and by two-thirds after six months. The total financial incentive for a breadwinner with two children is estimated to equal two to three months' average wages of a skilled worker. If he comes from a "pocket of unemployment" the amount equals three to four months' wages. This incentive has proved substantial enough to be an effective inducement for workers to leave unemployment areas in order to seek jobs elsewhere. It must be emphasized, however, that it is provided for a clearly defined purpose, and is not available throughout the country, but only in areas with a manpower surplus. Altogether some 10,000 people move each year with the help of such special allowances, representing 15 per cent only of the total number of workers moving to take up jobs in other places obtained for them through the placement service. In manpower surplus areas, however, the corresponding proportion ranges from 50 to 100 per cent of the total".*

The Swedish manpower adjustment program has many facets including aspects of farm planning, agricultural development, improvement in

* B. Olsson, op. cit., p. 15.

agrarian structure, occupational training and retraining, mobility assistance to workers and industrial development assistance.

Netherlands

The manpower programs in the Netherlands also include industrial location schemes as well as manpower mobility schemes. Until 1959 regional industrialization policy was oriented primarily to areas suffering from "acute structural unemployment".* Since 1959, however, rural areas having an unfavorable migration balance have been eligible for special subsidies to encourage industrialization.**

In the Netherlands the approaches to migration have been:

> "... mostly built on engaging the prospective migrants in discussions about their future. This is done through encouraging them to take an active part in the analysis of their present situation and in the planning of their future life. Among the techniques used are the community self-survey, the rural-social guidance and the economic social guidance.
>
> The community self-survey has a function which is very distinct from an ordinary survey carried out by expert research workers. The primary aim of the self-survey is to start social action, not to produce scientific data. It is important that the people of the migration area in question get a chance to face their problems, to discuss them and to decide upon a plan of action...
>
> In the survey, information can be collected about attitudes to agricultural modernization and rationalization, to reallotment and enlargement of farms, to the existing patterns of inheritment, etc.; and all matters that are closely related to migration. ... This information can then be used to further prepare the decision to migrate through rural social guidance."***

Rural-social guidance is group advice on problems relating to the living conditions of the agricultural population.

> "The problems dealt with here include industrialization, recreation, scale-enlargement, occupations and choice of occupation, training and re-training, migration, non-resident workers, forms of cooperation between undertakings, in which specially trained volunteers, from the agricultural population group have successfully participated. In addition, courses are held to train capable regional leaders who would be prepared to sit on the preparatory and executive committees.

* W.J. Vriezen, "Regional Rural Development Programs in the Netherlands", Ministry of Agriculture and Fishery, The Hague, September 1963, p. 15.

** Ibid.

*** I. Erixon, op. cit. pp. 11-12.

The regional improvement committees and local committees for land consolidation and other committees for other purposes are composed of regional representatives and government experts.

A need has even arisen for individual advice on social problems, for socio-economic guidance mainly on the relation farm-family in its concrete situation. On the basis of the concrete situation (farm income, financing possibilities, expenses and wants of the family, possibilities outside the agricultural sector) advice is given on farm change, liquidation of the farm, re-training, migration, etc.".*

In the economic social guidance program the diagnosis of each farm family situation proceeds to the point that a conclusion is reached concerning whether it is to the economic advantage of the farmer to remain on the farm or to transfer to another occupation.

In a further attempt to speed up improvements in agrarian structure in 1964, the Netherlands instituted a system of "discontinuation payments" to farmers over 65 years of age. Farmers who agree to discontinue farming and to make their farm available to a government settlement agency for consolidation with other farms are entitled to receive the discontinuation payments.

Manpower mobility also is encouraged by special training and retraining programs and through assistance in moving. Special payments are made to participants in these various programs.

France

France has recently initiated a series of programs designed to improve occupational and geographic mobility of agricultural manpower. There are three major facets: improvement in agricultural structures; regional development of industry; and improvement of occupational and geographic mobility within agriculture and from agriculture to other industries.

The policy of redirecting agricultural labor is based on the Fond d'Action Sociale pour l'Aménagement des Structures Agricoles.** The Fund has a twofold function: (a) to reorganize and stimulate farmers within the agricultural sector; (b) to facilitate the migration of surplus labor from agriculture into other sectors. The fund operates under (a) as follows: It makes settlement grants and loans to farmers leaving an over-populated area to settle in reception areas. It makes resettlement grants and loans to farmers who give up uneconomic holdings on terms which encourage

* W.M. Esser, "Participation of the Rural Population in Regional Development Activities", Ministry of Agriculture and Fishery, The Hague, January 1964, p. 8.

** Act of 1962 supplementing the Agriculture Act of 1960; Journal Official 10th July 1962, Articles 26-27, FASASA.

young farmers to settle elsewhere. It grants supplementary pension rights to older farmers who wish to give up their holdings. It provides assistance to ensure training for the sons of farmers who are scheduled to remain on their holdings and to improve their living standards and also helps to maintain farmers on their holdings when their presence is essential in certain depressed areas. The fund operates as follows under (b): It awards retraining grants to farmers, underemployed sons of farmers and unemployed agricultural workers to encourage their employment or reemployment in new occupations, particularly in sectors connected with agriculture.

An association has been founded (Association pour les Mutations Professionnelles dans l'Agriculture - A.M.P.R.A.) under the control of the Ministry of Agriculture, to implement FASASA policy at regional level. The A.M.P.R.A. redirects labor within the agricultural sector or from agriculture to other sectors and provides the requisite assistance. According to their personal, social and economic circumstances farmers are invited to choose between retirement, migration to and settlement on a farm in a de-populated rural area (in which case they are directed to the ANMER - an association for agricultural migration) or migration into a semi-agricultural or nonagricultural sector. The object of the policy of industrial de-centralization is to foster industrial activity in areas of underemployment. Government action takes the form of allowances, credits and tax reliefs granted to firms which locate in approved areas.

Government assistance to workers leaving agriculture mainly covers vocational guidance, vocational training and housing. Settlement grants are awarded to farmers who migrate within the agricultural sector.

France also has established special associations to buy land and resell it to farmers who desire to enlarge their farms. In order to encourage consolidation a system of "departure allowances" was recently introduced for farmers 65 years old and over and for disabled farmers 60 years old and over. In order to qualify for the payments farmers must cease farming and release their farms for consolidation with other farms.*

These country examples are illustrative of the kinds of mobility assistance now being provided. All of the programs have been recently initiated and to date too little evidence has been assembled to determine their effectiveness.

* The response to this program has been very good. According to data supplied by P. Legendre, Ministry of Agriculture, applications during the fall of 1964 were received at the rate of approximately 1,000 per month.

VI

SUMMARY AND POLICY RECOMMENDATIONS

Summary

This study is concerned with the occupational and geographic mobility of agricultural manpower. Emphasis is upon the transfer of labor from agricultural to nonagricultural employment. The study seeks to determine the rate at which manpower is being transferred, the types of adjustments in agriculture which are associated with the transfer, the major motivations for transfer, impediments to mobility and the types of policies which would improve mobility.

Agricultural technological innovations of a biological, chemical and mechanical nature and innovations in the organizational structure of agriculture all generate forces which provide incentives to increase the size of farms. Each of these types of innovations provides incentives to increase the amount of capital relative to labor in agricultural production and increase the migration of labor from farms.

Occupational inheritance in agriculture is moderately high. Most farmers are sons of farmers. The economic pressure on small farms, however, is acute. More farm residents are turning to nonagricultural employment. Migrants from farms tend to enter the unskilled and semiskilled occupations. This occupational selectivity likely reflects low skill levels of the migrants. After entry into nonagricultural occupations, the occupational mobility of people from farms remains largely a mystery.

There is persistent extensive underemployment of labor in agriculture. The migration which has taken place has not been sufficient to remove the underemployment.

The difference in earnings of labor in agricultural and nonagricultural employment provides an incentive for labor to transfer to nonfarm employment. The motivation of farm people to transfer is strongest among younger age groups where the difference in earnings also appears to be greatest.

Population characteristics have an important effect upon mobility in that they are specific to income earning capacity and they are specific to the costs of mobility.

A high proportion of the immobility of agricultural manpower is explained by differences in age and skills of the residual population and costs of migration. There is little doubt that in most OECD countries rural youth are not as well prepared for nonagricultural employment as their urban counterparts. Because of the high selectivity of occupational and geographic mobility with respect to age and because of the sharp decrease in mobility after becoming established in farming, improved occupational guidance and education and training programs in rural areas are especially important to better decisions concerning the use of manpower.

The costs of mobility are an important deterrent to the transfer of agricultural manpower to nonagricultural occupations. The direct cash costs are prohibitive for many families. Perhaps even more important are the costs of uncertainty and the nonpecuniary costs associated with the transfer. The structural rigidities in agriculture emanating from high fixed costs, low liquidity of land, highly variable seasonal manpower needs, technological impediments and external interests in maintaining the structure constitute other important impediments to mobility. Agricultural policies designed to increase the net returns for agricultural manpower, maintain small farms and to provide special tax concessions to farm owners decrease mobility. Deficiencies in the infrastructure of agricultural communities and of the receiving communities constitute further barriers.

Policy Recommendations

Increasing the mobility of manpower may or may not be desirable. Certainly mobility is not an end to be achieved as such. Policies should be directed toward improving the mobility potential of manpower through training and other programs in order to provide occupational and geographic flexibility and toward providing specific kinds of assistance to people to enable them to make and to carry out mobility decisions.

In the development of policies to improve the mobility potential of agricultural manpower, a coordinated approach including the following elements is needed: (1) policies and programs oriented primarily toward the agricultural communities, (2) training and retraining programs for rural residents, (3) improvements in information and guidance systems, (4) mobility payments and (5) policies and programs oriented toward improved assimilation in the receiving communities.

More attention should be given to the employment potential of agriculture with special emphasis upon the number of persons who can be

employed at specified income levels. Much greater emphasis should be placed upon farm consolidation and prevention of parcellization and fragmentation.

Further consideration should be given to schemes to combine early retirement of farmers and consolidation of farms. In order to facilitate structural changes in areas of low liquidity of land it may be necessary for governments to support the price of land and to use zoning powers to guide the use of land. In the establishment of agricultural price and income policies due consideration should be given to their potential impacts upon manpower mobility.

Manpower policy objectives cannot be separated from policies concerning human resource development. Rural youth will remain handicapped until their educational opportunities are equal to those of urban youth.

Special efforts should be made to improve the information which potential migrants have concerning employment opportunities and living conditions in urban areas.

Mobility payments should be tried on a larger scale. Emphasis probably should be placed upon people of less than 30 years of age. Assimilation can be improved through greater use of reception centers, training schools, guidance councils, the provision of better housing and through the assistance of church and civic groups to reduce the feeling of insecurity, dissatisfaction and discrimination.

All countries have programs to assist potential migrants in making a transition from rural to urban areas. The kinds of assistance and the extent of assistance vary among countries. Some countries have developed a plan for the size and characteristics desired in their agriculture in the future and have undertaken specific programs to move in this direction. Most countries, however, have no such clear vision with respect to the path which agricultural adjustment should take. In most countries, there is no plan for reorganisation of agricultural resources or for improving the mobility of agricultural manpower. A policy of large scale transfer of labor from rural areas without understanding what such a policy implies to agricultural industries may be more wasteful than no manpower policy. Sound manpower policy must be developed with respect to the product and resource mixes in rural areas before and after migration in addition to the adjustments made by migrants in the communities to which they migrate.

ANNEX I

LIST OF PARTICIPANTS
at the Meeting of Experts held in Paris
on 26th and 27th November, 1964

AUSTRIA

V. Wolf
Austrian Delegation to OECD,
3, rue Albéric-Magnard, Paris 16e

DENMARK

H. Vitting Andersen
Joint Committee for Manpower Economics in Agriculture,
Axelborg, Copenhagen V

FRANCE

P. Legendre*
Sous-Directeur des Structures de Base,
Direction Générale de l'Enseignement
et des Affaires professionnelles et sociales,
Ministère de l'Agriculture,
78, rue de Varenne, Paris 7e

Mlle Bune
Direction Générale de l'Enseignement
et des Affaires professionnelles et sociales,
Ministère de l'Agriculture,
78, rue de Varenne, Paris 7e

GERMANY

Prof. H. Kötter
Direktor des Instituts für Agrarsoziologie der Justus - Liebig-Universität,
Schanzenstr. 1-5, Giessen/Lahn

* Part-time.

GREECE

M. Panayotopoulos
Director, Centre of Economic Research,
Odos Amerikis 6, Athens

ITALY

Prof. G. Dell' Angelo
S.V.I.M.E.Z.
Via di Porta Pinciana 6, Rome

NETHERLANDS

W.J. Vriezen
Ministry for Agriculture and Fisheries,
Ie. v.d. Boschstraat 4, The Hague

NORWAY

F. Reisegg
The Norwegian Institute of Agricultural Economics,
Möllergt 16, Oslo

SWEDEN

B. Rehnberg
Head of Section,
National Labour Market Board,
Fack, Stockholm 12

UNITED KINGDOM

Miss S.M. Lloyd
Agricultural Economics Division,
Ministry for Agriculture, Fisheries and Food,
Whitehall Place, London S.W.1

INTERNATIONAL ORGANISATIONS

I.L.O.

P.W. Dunkel
Rural Employment Unit,
International Labour Office, Geneva

E.E.C.

X. Lannes
Direction Générale des Affaires Sociales,
C.E.E. - Bruxelles

O.E.C.D., Consultant

C.E. Bishop
Department of Agricultural Economics,
North Carolina State University,
Raleigh, North Carolina (U.S.A.)

O.E.C.D., Secretariat

Directorate for Manpower and Social Affairs

Mlle D. Lecoultre
Division for Social Affairs

Directorate for Statistics and National Accounts

Mlle M. Painter*
Division for National Accounts
and Economic Forecasting

Directorate for Agriculture and Food

B.L. Rowan
Head of Division for Technical Action

E. Gomez-Manzanares
Division for Technical Action

* Part-time.

OECD SALES AGENTS
DÉPOSITAIRES DES PUBLICATIONS DE L'OCDE

ARGENTINA - ARGENTINE
Editorial Sudamericana S.A.,
Alsina 500, BUENOS AIRES.

AUSTRALIA - AUSTRALIE
B.C.N. Agencies Pty, Ltd.,
62 Wellington Parade, East MELBOURNE, C.2.

AUSTRIA - AUTRICHE
Gerold & Co., Graben 31, WIEN 1.
Sub-Agent : GRAZ : Buchhandlung Jos. A. Kienreich, Sackstrasse 6.

BELGIUM - BELGIQUE
N.V. Standaard-Boekhandel,
Huidevettersstraat 57, ANVERS.
BRUXELLES : Librairie des Sciences (R. Stoops), 76-78, Coudenberg.

BRAZIL - BRÉSIL
Livraria Agir Editôra,
Rua Mexico 98-B, RIO DE JANEIRO.

CANADA
Queen's Printer - Imprimeur de la Reine, OTTAWA.
Prepayment of all orders required.
Les commandes sont payables d'avance.

DENMARK - DANEMARK
Munksgaard Boghandel, Ltd., Nörregade 6,
KOBENHAVN K.

FINLAND - FINLANDE
Akateeminen Kirjakauppa, Keskuskatu 2,
HELSINKI.

FORMOSA - FORMOSE
Books and Scientific Supplies Services, Ltd.
P.O.B. 83, TAPEI.
TAIWAN.

FRANCE
Bureau des Publications de l'OCDE,
2, rue André-Pascal, PARIS (16e).
Principaux sous-dépositaires :
PARIS : Presses Universitaires de France,
49, bd Saint-Michel, 5e
Librairie de Médicis, 3, rue de Médicis, 6e
Sciences Politiques (Lib.), 30, rue Saint-Guillaume, 7e
La Documentation Française, 16, rue Lord Byron, 8e
BORDEAUX : Mollat.
GRENOBLE : Arthaud.
LILLE : Le Furet du Nord.
LYON IIe : L. Demortière.
MARSEILLE : Maupetit.
STRASBOURG : Berger-Levrault.

GERMANY - ALLEMAGNE
Deutscher Bundes-Verlag G.m.b.H.
Postfach 9380, 53 BONN.
Sub-Agents : BERLIN 62 : Elwert & Meurer.
MUNCHEN : Hueber, HAMBURG : Reuter-Klöckner; und in den massgebenden Buchhandlungen Deutschlands.

GREECE - GRÈCE
Librairie Kauffmann, 21, rue du Stade, ATHÈNES.

ICELAND - ISLANDE
Snæbjörn Jónsson & Co., h.f., Hafnarstræti 9,
P.O. Box 1131, REYKJAVIK.

INDIA - INDE
International Book House Ltd.,
9 Ash Lane, Mahatma Gandhi Road, BOMBAY 1.
Oxford Book and Stationery Co. :
NEW DELHI, Scindia House.
CALCUTTA, 17 Park Street.

IRAQ - IRAK
Hamid Abdul Karim
Shorja Bldg, Shorja,
P.O.B. 419, BAGHDAD.

IRELAND - IRLANDE
Eason & Son, 40-41 Lower O'Connell Street,
DUBLIN.

ISRAEL
Blumstein's Bookstores Ltd.,
35 Allenby Road, and 48 Nahlath Benjamin St.,
TEL-AVIV.

ITALY - ITALIE
Libreria Commissionaria Sansoni
Via Lamarmora 45, FIRENZE.
Via Paolo Mercuri 19/B, ROMA.

Sous - Dépositaires : GENOVA : Libreria Di Stefano. MILANO : Libreria Hœpli. NAPOLI : Libreria L. Cappelli. PADOVA : Libreria Zannoni. PALERMO : Libreria C. Cicala Inguaggiato. ROMA : Libreria Rizzoli, Libreria Tombolini. TORINO : Libreria Lattes.

JAPAN - JAPON
Maruzen Company Ltd.,
6 Tori-Nichome Nihonbashi, TOKYO.

KENYA
New Era Publications
Ghale House. Government Road,
P.B. 6854.
NAIROBI.

LEBANON-LIBAN
Redico
Immeuble Edison, Rue Bliss, B.P. 5641,
BEYROUTH.

LUXEMBOURG
Librairie Paul Bruck
33, Grand' Rue,
LUXEMBOURG.

MOROCCO - MAROC
Éditions La Porte, *Aux Belles Images*.
281, avenue Mohammed V, RABAT.

THE NETHERLANDS - PAYS-BAS
Wholesale Agent : Meulenhoff & Co., N.V. Importeurs, Beulingstraat, 2, AMSTERDAM C.
Principal Retailer : W.P. Van Stockum & Zoon, Buitenhof 36, DEN HAAG.

NEW ZEALAND - NOUVELLE ZÉLANDE
Government Printing Office,
20 Molesworth Street (Private Bag), WELLINGTON
and Government Bookshops at
Auckland (P.O.B. 5344)
Christchurch (P.O.B. 1721)
Dunedin (P.O.B. 1104).

NORWAY - NORVÈGE
A/S Bokhjornet, Lille Grensen 7, OSLO.

PAKISTAN
Mirza Book Agency, 65, The Mall, LAHORE 3.

PORTUGAL
Livraria Portugal, Rua do Carmo 70, LISBOA.

SOUTH AFRICA - AFRIQUE DU SUD
Van Schaik's Book Store Ltd.,
Church Street, PRETORIA.

SPAIN - ESPAGNE
Mundi Prensa, Castelló 37, MADRID.
Libreria Bastinos de José Bosch, Pelayo 52,
BARCELONA 1.

SWEDEN - SUÈDE
Fritzes, Kungl. Hovbokhandel,
Fredsgatan 2, STOCKHOLM 16.

SWITZERLAND - SUISSE
Librairie Payot, 6, rue Grenus, 1211 GENÈVE, 11 et à LAUSANNE, NEUCHATEL, VEVEY, MONTREUX, BERNE, BALE et ZURICH.

TURKEY - TURQUIE
Librairie Hachette, 469 Istiklal Caddesi, Beyoglu, ISTANBUL et 12 Ziya Gökalp Caddesi, ANKARA.

UNITED KINGDOM ROYAUME-UNI
H.M. Stationery Office, P.O. Box 569, LONDON, S.E.I.
Branches at : EDINBURGH, BIRMINGHAM, BRISTOL, MANCHESTER, CARDIFF, BELFAST.

UNITED STATES OF AMERICA
Mc Graw - Hill Book Company, OECD-Unit,
TMIS Annex, 351 West 41st Street,
NEW YORK 36, N.Y.

YUGOSLAVIA - YOUGOSLAVIE
Jugoslovenska Knjiga, Marsala Tita, 23, P.O.B. 36,
BEOGRAD.

Les commandes provenant de pays où l'OCDE n'a pas encore désigné de dépositaire peuvent être adressées à :
OCDE, Bureau des Publications, 2, rue André-Pascal, Paris (16e).
Orders and inquiries from countries where sales agents have not yet been appointed may be sent to OECD, Publications Office, 2, rue André-Pascal, Paris (16e).

O.E.C.D. PUBLICATIONS, 2, rue André-Pascal, Paris-16e - No. 19423/November 1965
PRINTED IN FRANCE

DOCUMENTATION IN AGRICULTURE AND FOOD

(publications on sale obtainable from O.E.C.D. sales agents)

1961 SERIES

34. Farmers' Marketing Organisations. Project 403 (7 s., F 4.80)

35. Agricultural Documentation : the responsibilities of libraries and information services. Project 6/15 (FATIS) - (6 s., F 4)

36. Agricultural advisory services in Europe and North America (1960). Project 6/14-I (12 s. 6 d., F 8)

37. Catalogue of Agricultural Films. (New and revised edition—1961). Project 8/15-A (FATIS) - (17 s. 6 d., F 12)

38. The professional training of teachers in vocational agricultural schools. Project 6/14-IV (14 s., F 9.50)

39. Promotion of work study in the agricultural and horticultural advisory services. Project 5/17 (13 s. 6 d., F 9)

40. Application of marketing and consumer'research for livestock products in the U.S.A. Project 5/31-V (12 s., F 8)

41. Agricultural regions in the O.E.E.C. Countries. Project 417 (7 s. 6 d., F 5.20)

42. Organisation of the wholesale meat market in Europe. Project 5/31-IA (5 s., F 3.20)

43. Meat grading in O.E.E.C. Member countries. Project 5/31-IB (9 s., F 6)

44. Methods of forecasting pig meat production in O.E.E.C. Member countries. Project 6/11-IA (4 s., F 2.50)

45. Programme Planning — A simple method of determining high profit production plans on individual farms. Project 6/14-II (4 s., F 2.50)

46. Use of radiations and radio-isotopes in food and agriculture. List of research institutes and scientists in O.E.C.D. Member countries (New and revised edition—1961). Project 396 (6 s., F 3.50)

47. International standardisation of fruit and vegetables. Project 8/10-A (Apples and pears) (4 s., F 2.50)

1962 SERIES

48. The development of agricultural apprenticeship schemes. Project 7/14-III (7 s. 6 d., F 5)

49. Work planning methods in agriculture and horticulture. Project 8/14-B (9 s., F 6)

50. Inter-disciplinary co-operation in technical and economic agricultural research. (Project 8/14 D (9 s., F 6)

51. Sanitary regulations affecting international trade in fish and fish products. Project 7/12 C and 8/12 C (10 s. 6 d., F 7)

52. Agricultural vocational training in Europe and North America. Project 8/16 B (27 s. 6 d., F 18)

53. Sanitary regulations for livestock and meat in the O.E.C.D. countries. Project 6/11-1 B (7 s. 6 d., F 5)

54. The international standardisation of fruit and vegetables. Project 8/10 A (Tomatoes - cauliflowers - salad crops and peaches) - (9 s., F 6)

55. Organisation and structure of the milk markets in O.E.C.D. Member countries. Project 5/31 11 (30 s., F 20)

56. O.E.C.D. scheme for the varietal certification of herbage seed moving in international trade. Project 18-12 (3 s., F 2)

57. Concepts of productivity measurement in agriculture on a national scale (6 s., F 3.50)

58. Survey on the organisation of marketing poultry meat with special emphasis on broilers (16 s., F 10)

1963 SERIES

59. O.E.C.D. scheme for the varietal certification of herbage seed moving in international trade. List of cultivars (varieties) eligible for certification under the O.E.C.D. scheme. Free of charge.

60. Intellectual investment in agriculture for economic and social development. (9 s., F 6)

61. Higher education in agriculture. Report of the 1962 conference. (10 s. 6 d., F 7)

62. Agricultural advisory services in Europe and North America 1963 (12 s. 6 d., F 8)

1964 SERIES

63. Research in agricultural economics. Institutes and main fields of research. (7 s. 6 d., F 5)

64. International standardisation of fruit and vegetables. (onions, apricots, plums, strawberries, table grapes). (22 s. 6 d, F 15)

65. Co-operation between research in agricultural natural sciences and agricultural economics. Report of the 1963 seminar. (15 s., F 10)

66. Regional rural development programmes with special emphasis on depressed agricultural areas, including mountain regions. (20 s., F 14)

67. Problems of manpower in agriculture. (9 s., F 6)

68. The economic effects of fresh meat prepackaging in member countries of the O.E.C.D. (10 s. 6 d., F 7)

69. O.E.C.D. Scheme for the varietal certification of herbage seed moving in International Trade. (5 s., F 3)

1965 SERIES

70. Agricultural education at university level. (24 s., F 16)

71. Co-operative research to improve input/output data in cow milk production. (15 s., F 10)

72. Work requirement data for farm management purposes. (9 s., F 6)

73. Advisory work in agricultural marketing. (9 s., F 6)

74. Obstacles to shifts in the use of land. (9 s., F 6)

75. Geographic and occupational mobility of rural manpower. (9 s., F 6)

PRICE $ 1.50 9 s. F 6 Sw. fr. 6 DM 5